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VOL. XXX NOVEMBER, 1930 No. 3

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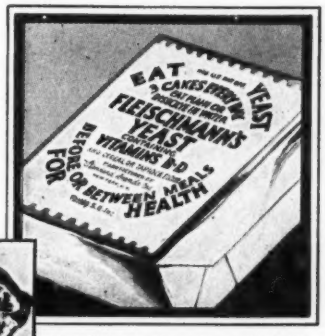
Fleischmann's Yeast now its *richest food source* . . . Also rich in Vitamins B and G, and gently laxative



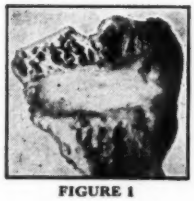


FIGURE 1

FIGURE 2

Calcifying action of vitamin D in Fleischmann's Yeast shown by biological tests. Fig. 1 — tibia of rachitic rat. Fig. 2—complete healing brought about by irradiated yeast.

RECENT studies have drawn widespread attention to the need of greater vitamin protection *during pregnancy*.

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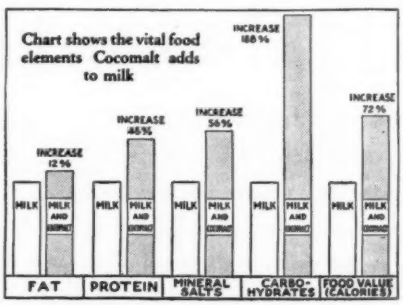

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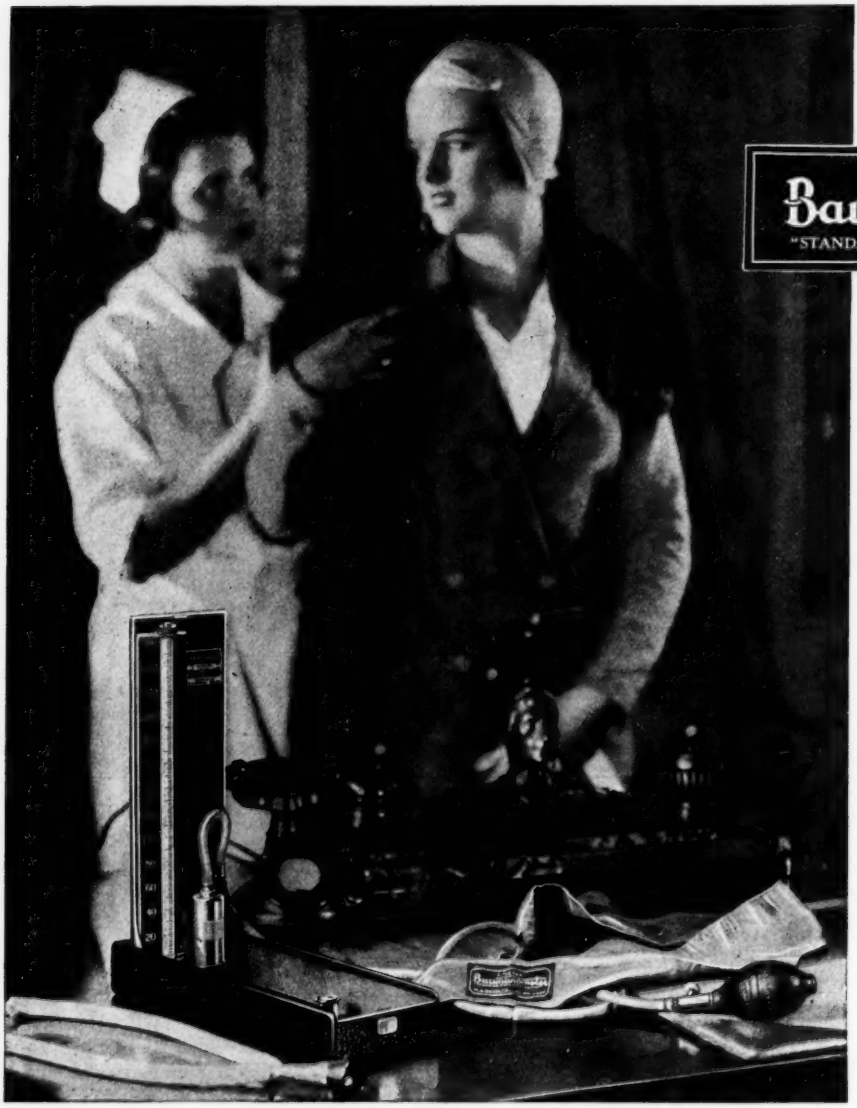

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SPINACH SALAD *(Six Servings)*

	Grams	Prot.	Fat	Carb.	Cal.
1½ tablespoons Knox Sparkling Gelatine	10	9	....	....	....
¼ cup cold water	....	....	....	....	....
1¼ cups boiling water	....	....	....	....	....
2 tablespoons lemon juice	20	....	....	2	....
½ teaspoon salt	....	....	....	....	....
1½ cups cooked spinach, chopped	300	6	....	7	....
2 hard cooked eggs	100	13	10.5	....	....
Total	28	10.5	9		242.5
One serving	5	2	1.5		40

Soak gelatine in cold water and dissolve in boiling water. Add lemon juice, salt, strain and chill. When nearly set, stir in chopped spinach, mold and chill until firm. Serve on lettuce hearts or tender chicory leaves and garnish with hard cooked egg, cut lengthwise in sixths and sprinkled with paprika. Serve with mayonnaise.

RECIPES LIKE THESE HELP DIABETIC PATIENTS KEEP THEIR DIETS *AND THEIR APPETITES*

WINTER SALAD *(Six Servings)*

	Grams	Prot.	Fat	Carb.	Cal.
2 teaspoons Knox Sparkling Gelatine	4.5	4	....	....	....
¼ cup cold water	....	....	....	....	....
½ cup hot water	....	....	....	....	....
½ teaspoon salt	....	....	....	....	....
¼ cup vinegar	....	....	....	....	....
1½ cups grated cheese	150	43	54	....	....
½ cup chopped stuffed olives	70	1	19	8	....
½ cup chopped celery	60	1	....	2	....
½ cup chopped green pepper	25	....	....	1	....
½ cup cream, whipped	75	2	30	2	....
Total	51	103	13		1183
One serving	8.5	17	2		197

Soak gelatine in cold water. Bring hot water and salt to boil and dissolve gelatine in it. Add vinegar and set aside to chill. When nearly set, beat until frothy, fold in cheese, olives, celery, pepper and whipped cream. Turn into molds and chill until firm. Unmold on lettuce leaf and serve.

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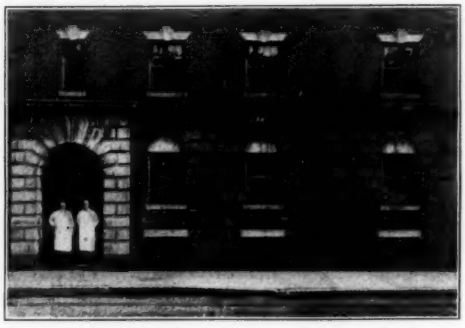

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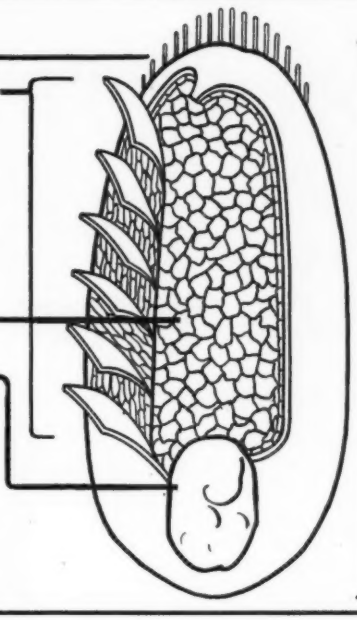

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(1) Hurst: Constipation and Allied Intestinal Disorders. 2nd Edition. Pages 326-327.
(2) Mathews: Physiological Chemistry. 3rd Edition. Pages 612-613.

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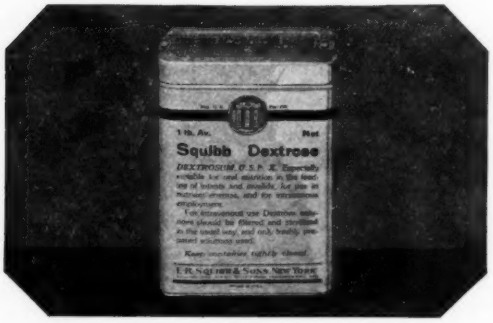

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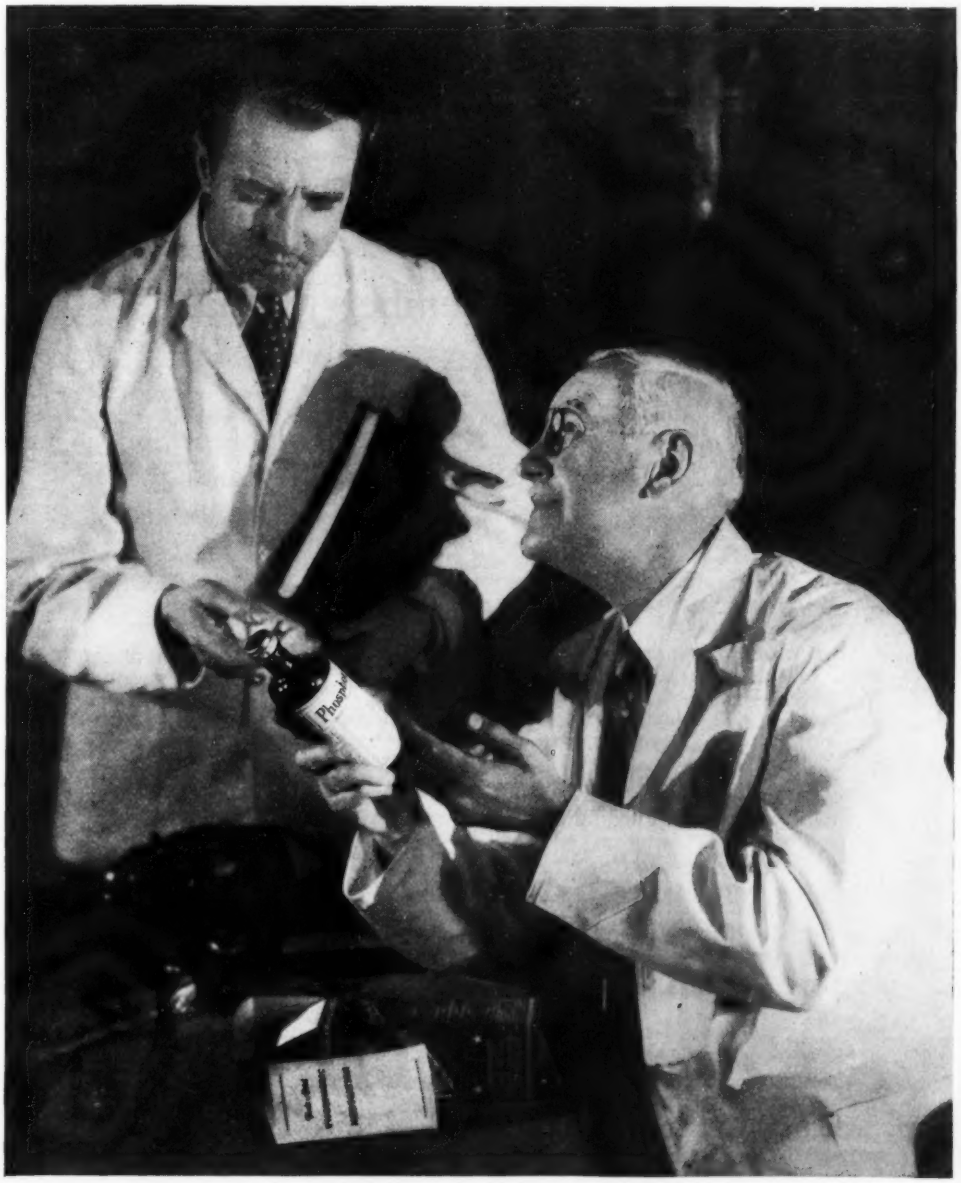

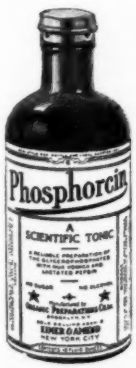

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THE NEXT JOURNAL

The November issue of the Journal will feature many phases of the subject of Pediatrics. The principal papers in this Symposium were read at the Philadelphia Convention.

Contents of December Journal

Accidental Lesions Among Animals—Louisa Burns, W. J. Vollbrecht, and Laura P. Tweed.

Vertebral Mechanics—Part VI, Albert E. Guy, Paris, France.

Symposium on Pediatrics—Leo C. Wagner, Chairman.

Natural Immunity in Children. Ernest R. Proctor, Chicago.

Discussion of Eye, Ear, Nose and Throat of Children. C. Paul Snyder, Philadelphia, Pa.

Diplegia Spastica Infantilis. Ernest R. Proctor, Chicago.

Morphology As It Applies to Osteopathy. Vincent H. Ober, Norfolk, Va.

The Cause and Treatment of Malnutrition in Infancy. E. C. Andrews, Ottawa, Ill.

Diet for the Growing Child. Mary E. Golden, Des Moines, Iowa.

Infant Feeding. Ruth Elizabeth Tinley, Philadelphia.

Hay Fever. Ira W. Drew, Philadelphia.

The Persistent Cough. Edgar D. Heist, Kitchener, Ont.

Birth Injuries. Lillian Whiting, Los Angeles.

Acute Diseases of Childhood. Olive B. Williams, Worcester, Mass.

Some Pediatric Suggestions. Leo C. Wagner, Lansdowne, Pa.

The usual technical sections, bureau and committee reports and professional news columns will appear.

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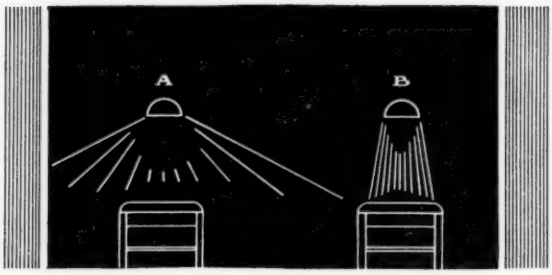

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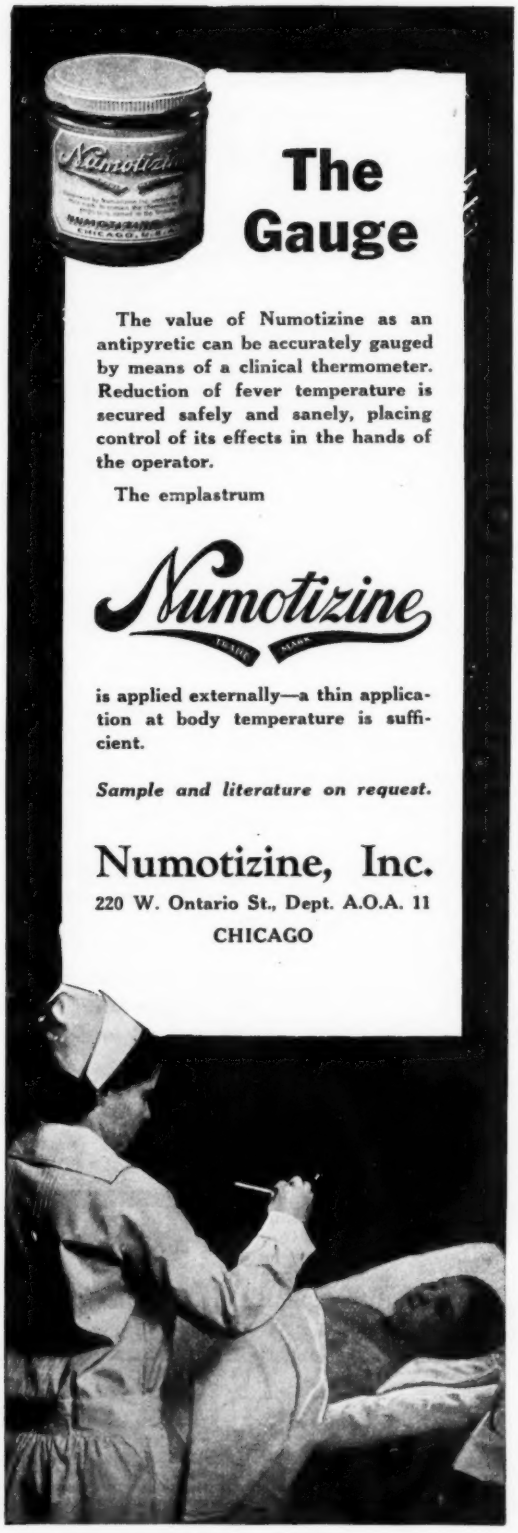

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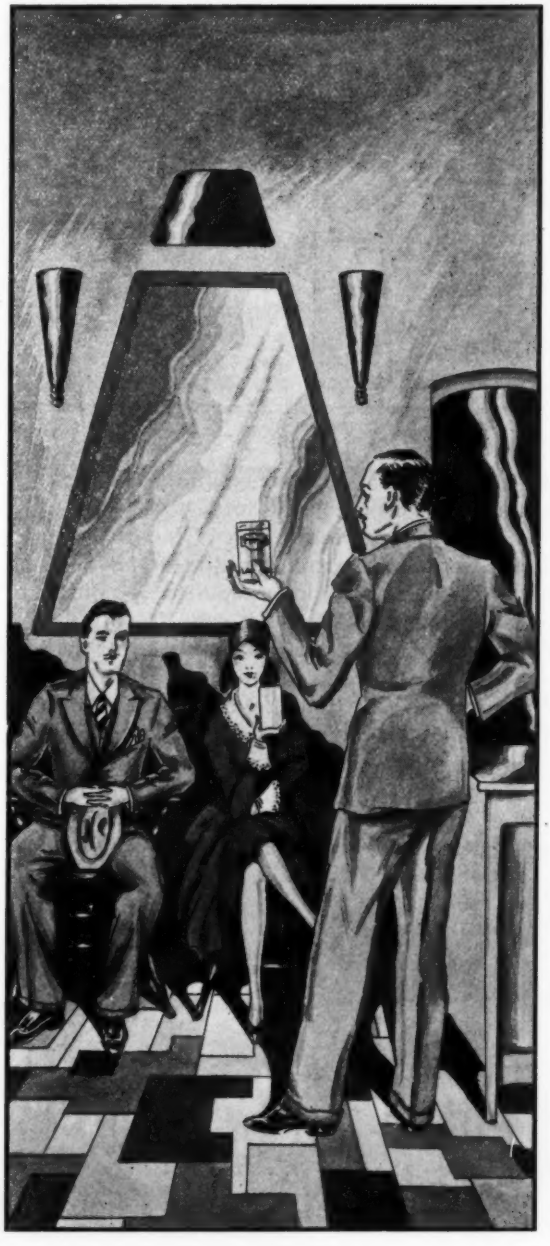

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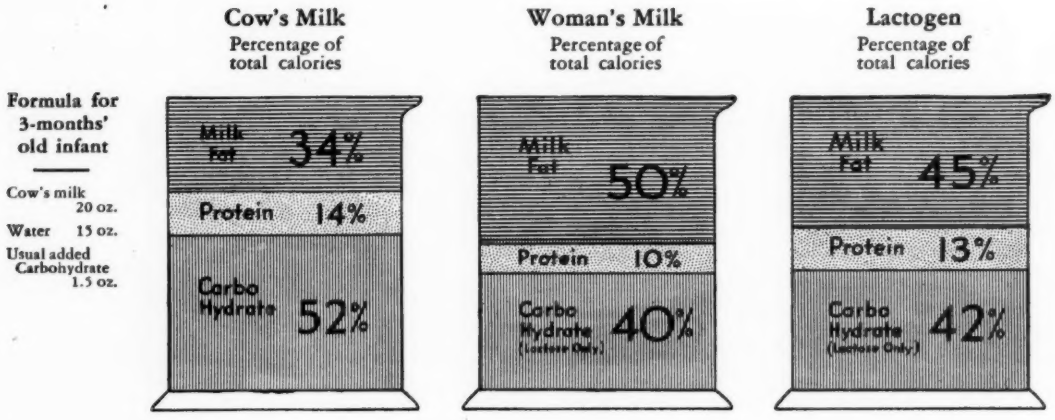

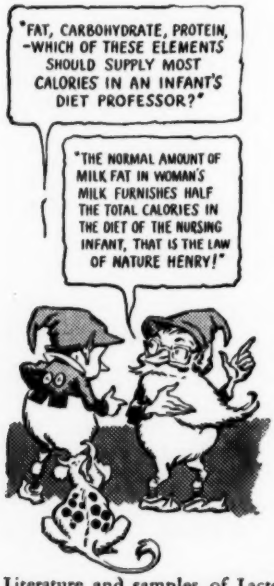
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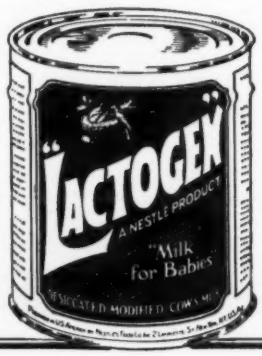
—L. EMMETT HOLT, M. D., L. L. D.
Food, Health and Growth, p. 119



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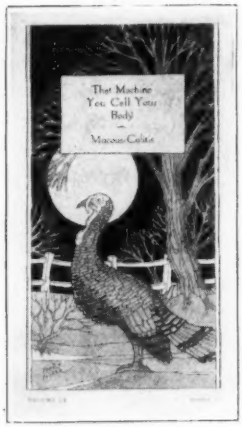

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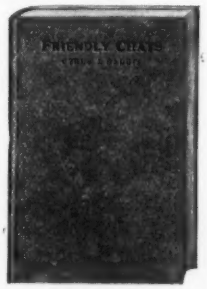

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Vertebral Mechanics

ALBERT E. GUY, D.O.
Paris

PART V

The Vertebral Canal and the Intervertebral Foramen.—Dual Circulation. By definition a foramen is an orifice or short passage; its importance seems inversely proportional to its length, for the intervertebral duct in its extent of five or six millimeters carries "Cæsar and his fortunes," not only metamerically but also systemically through numerous reflex mechanisms. Within it are adequately organized the means required for the protection and the nutrition of the nerve fibers which, just issued from the cord, conjoin at a point ceaselessly disturbed by the physiological motions of the body parts, consequently always fraught with danger, to prepare their intersticial entry and progress through the tissues and organs to which they convey regulating and controlling impulses and stimuli. That the function of the various body organs is dependent on the nervous influence, in the sense understood nowadays, has been progressively realized since the seventeenth century; witness for one instance the magistral memoir of Pourfour de Petit, presented to the Royal Academy in 1725, in which are related his experiments dating from 1717, establishing the connection between fibers issuing from the three first dorsals and the ciliary muscles; these fibers ascend through the cervical sympathetic chain to the superior cervical ganglion and the carotidian ramus, thence anastomose with the Gasserian ganglion, pass through the ophthalmic ganglion, to finally reach the ciliary nerves, dilators of the pupil. Evidently this important discovery has not received practical application outside the osteopathic realm, and like many others evolved from the patient labors of learned physiologists, has but a topographical value. The tendency to treat disease topically has predominated throughout the ages, and though many modes of treatment might be adduced to combat this statement, the rebuttal itself could be proven but apparent; thus in cases of germ pathology a friendly germ or a friendly antitoxin were sought to overcome the bad germ and its toxin that had squatted somewhere in the body; serums were devised galore either to overcome the germ in its own habitat, or to fence in the body generally against its invasion; radium rays, electric rays, were applied certainly with topical intent; light rays are in vogue; and to crown it all we have a tremendous surge of sympathectomy. This latter is at once a renascence and a recrudescence of the application of the notions so admirably developed by Claude Bernard in his "Lessons on the Physiology and the Pathology of the Nervous System," 1858, and on the "Properties of Living Tissues," 1864. Here incidentally, we find the most emphatic confirmation of the well founded osteopathic theory. According to Claude Bernard the vascular system is subject to the influence of two nervous systems, more or less distinct: the sympathetic and the cerebrospinal; the first is moderator of the vessels; its stimulation produces varying degrees of vasoconstriction, thus hindering or slowing down circulation. On the contrary, stimulation of the cerebrospinal fibers produces vasodilation. That is all there is to the mechanism of the influence of the nervous system. Through these two modes of action, constriction or dilation of the vessels, the nervous system governs all the chemical phenomena of the organism.

Vasoconstriction is the contraction of the muscle fibers in the sheaths of the vessels, contraction induced by sympathetic nerve fibers; vasodilatation on the contrary is induced by the inhibitive action of the cerebrospinal system upon the sympathetic. The purpose of sympathectomy is then, through resection of certain nerve fibers, to induce a greater influx of blood to a given part and a considerable exaltation of chemical phenomena; modification of the regime of circulation may prove beneficial in the reduction of congestion affecting an arthritic joint, for instance, and may prove a factor in rapid ossification in fracture zones by establishing the required connective tissue medium suitable for the utilization of material freed by resorption, etc. The famous motto of Dr. Still about the supremacy of the rule of the artery, which was the constant guiding fanion of his untiring activity, is here upheld by one of the most illustrious of French physiologists, and that alone should be a most precious encouragement to the followers of Dr. Still.

But Claude Bernard tells us that instead of resecting the sympathetic fibers to obtain the effects he mentioned, a sensory nerve of the cerebrospinal system may be so stimulated as to react upon the sympathetic and to inhibit its influence. Thus, in a most elementary experiment, the pinching of a body part causes it to redden through inhibiting (paralyzing) action upon the muscles of the blood vessels, which then acquire a larger volume and thus contain more blood. Likewise when a gland begins functioning, at first pale it becomes turgescent, the blood rushes to it because of the modification in size of the vessels. Thus anywhere the chemical actions are intensified there is sympathetic inhibition, hence dilatation of blood vessels. Inversely, when these phenomena diminish, the tonicity of the sympathetic increases parallelly, and its

action upon the muscular sheaths of the vessels, now more energetic, constricts appreciably their caliber.

Now then we may realize more clearly the practical, the utilitarian side of osteopathy as established by Dr. Still. By dint of incessant and analytic observation he developed the notion that disease was caused by impediment of the normal circulation, which alone could insure the nutrition and the upkeep of the body tissues and organs; then his extraordinary ingenuity led him to seek further and to discover that the local impediments were not alone, that symptomatic disturbances existed not only along the path of the cerebrospinal nerves but also, and mainly, about the tissular masses in the immediate neighborhood of the spinal roots themselves, powerful enough in their effects to even upset the equilibrium of the vertebral structure. He reasoned that the removal of the disturbances at their sources proper, that is at the spinal outlets, should be effective in overcoming the local impediment, thus restoring the circulation to normal and, in cases, hyperactivating it, and consequently overcoming the disease itself. This led to experimentation on the living body and, his hypotheses being amply confirmed by the ready response he obtained, to gradually develop the manipulative technic now so well established and recognized.

Perhaps some will contend that the title affixed to our subject, "Vertebral Mechanics," is a misnomer because we have many times digressed from the path of the geometry of motion, of Kinematics and Dynamics; perhaps it is so, but the side lanes we have entered took us to interesting viewpoints. Paraphrasing the old saying that "all roads lead to Rome," we may state that all these lanes in some way or other led us towards our real objective, which is the understanding of "the why and how of lesion." Such a lane invites us at this juncture and we may follow it without regret. Claude Bernard in many of his lectures treats extensively of the influence of the nervous system upon circulation. He states that it is now demonstrated (1858), that contrarily to long-established opinions, capillary vessels are contractile, as may be seen by a description of their system. Arteries are continued by arterioles whose walls are still made up of three superposed membranes, one serous, the intima, one elastic and one contractile; the elastic membrane, very thick in the large arteries, thins out progressively as the vessels become smaller, so that it is the contractile membrane which becomes the important part, relatively predominating, of the vascular sheath of the arterioles; these in turn are continued by the capillaries whose envelope is devoid of contractile membrane and is formed solely of an exceedingly thin layer of nucleated cells. Following these come the venules and gradually the veins through which the blood is returned to the heart. But the contractile capillary arterioles and venules are also connected independently of the capillaries proper, in such a manner that blood may flow from the ones to the others without passing through the noncontractile vessels. These direct arteriovenous connections were then well established scientifically for the major systems, such as the liver, where there is a by-pass between the vena cava and the portal vein; Virchow had observed them in the kidneys, and other experimenters had found them in other glandular organs; and so it was plausible to generalize and to admit the existence of similar connections throughout all the elements of the organism, thus recognizing a dual capillary system, a double circulatory path for the blood going from the arteries to the veins: one direct, formed by special and contractile canals connecting the two great circulatory trunks; the other more circuitous, passing through the small, noncontractile, capillary vessels in which occur the phenomena of endosmosis, of secretion, of extravasation, etc.

Normally the entrance into the small capillaries may become *choked by some obstruction* arresting the the circulation therein, so that the blood has to follow the arteriovenous path; consequently we may conceive that at the end of the capillary arterioles, just before they cease to be contractile, there are special sphincters, normally of course more or less relaxed, and whose function would be to regulate the regional irrigation; abnormal occlusion of these capillaries would at once account for regional anemic or ischemic conditions.

Comparative anatomy demonstrates in a way the truth of this hypothesis, as what we deduce from experimental data and assume for all animals of a superior order, has been positively observed in some cases. Thus the larvæ of large marine crustaceans possess an arterial system contiguous with a lacunar venous system, and at the ends of the arterioles special sphincters have been observed whose constriction may regulate, and even completely interrupt, any communication between the two circulatory systems. Well, the action of the sympathetic nerve fibers regulates the state of contraction or of closure of our small sphincters, and inversely, paralysis of this nervous system induces dilation of capillary vessels through the relaxation of the sphincteral fibers.

We have just at hand a memoir presented to the Paris Academy of Medicine by Drs. Laubry and Tzanck, on July 24, 1930, which treats of venous circulation and thus some 72 years later, confirms in a way the views of Claude Bernard, strengthens and completes them. These authors show that the return circulation of the blood towards the heart is inadequately explained by the mechanism commonly accepted, which invokes the *vis a tergo*, the pleural depression, the cardiac suction; the principal role belongs, according to them, to the vasomotor nerves of the capillary vessels and of the veins, which insure the permanent tonicity of a receiver whose capacity is much greater than the volume of the contents. It is then easily conceived that the relaxation of the walls of such a receiver is apt to cause stagnancy of the mass of blood and stoppage of the return circulation to the heart. Quite a number of physiological and pathological phenomena are thus explained, according to the authors who cite some examples, by means of this conception of the venous circulation.

We should note that the question of venous circulation has received attention from several quarters during the last few years, and it seems strange that it has been so long neglected, in view of the fact that the vein sheaths contain a considerable amount of muscle tissue which, of itself, is inert and responds only to nervous influence. It is self-

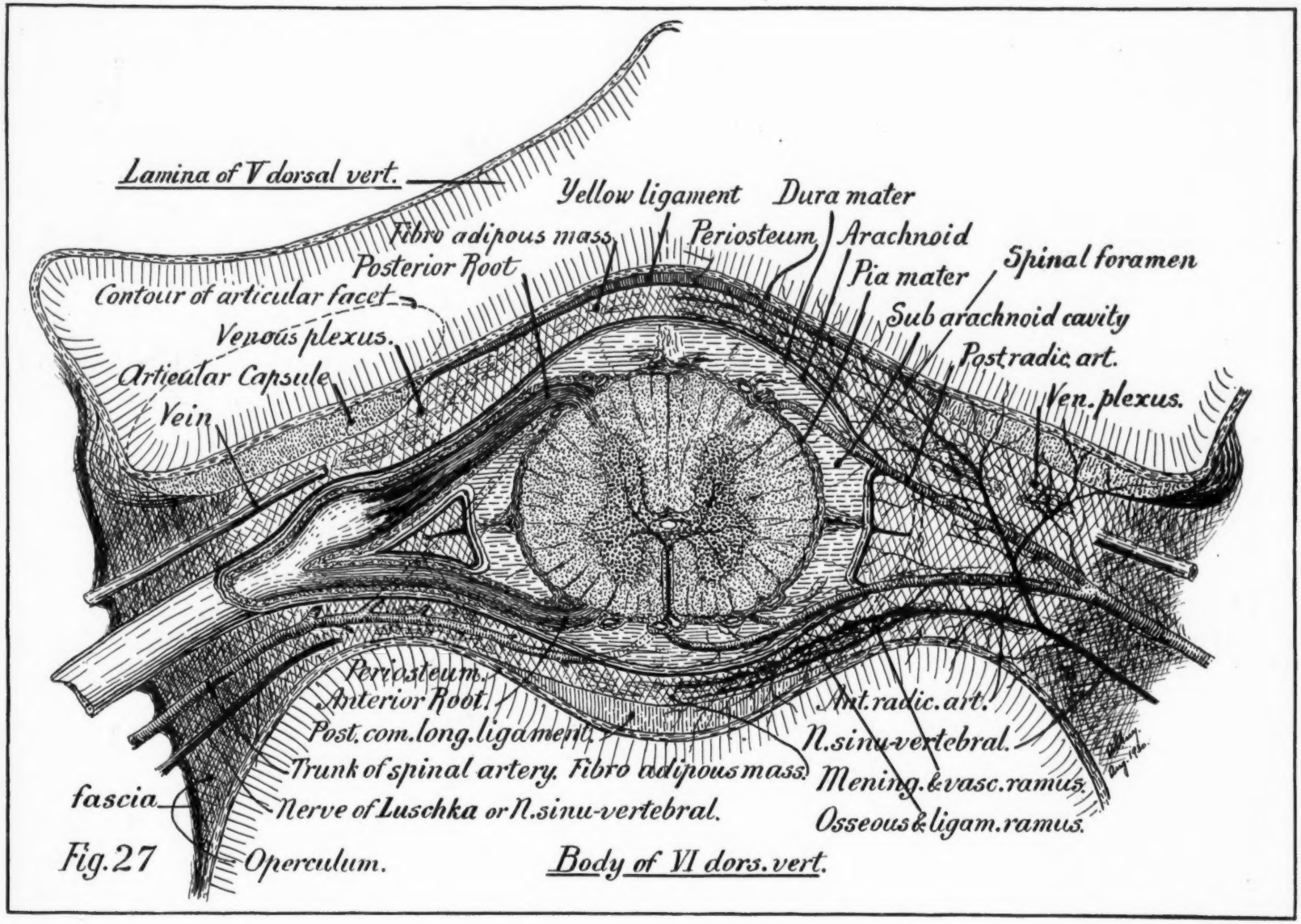

Lamina of V dorsal vert.
Yellow ligament
Dura mater
Fibro adipous mass
Periosteum
Arachnoid
Posterior Root
Pia mater
Spinal foramen
Contour of articular facet
Sub arachnoid cavity
Venous plexus.
Post radic. art.
Articular Capsule
Ven. plexus.
Vein
Periosteum.
Anterior Root.
Ant. radic. art.
Post. com. long. ligament
N. sinu-vertebral.
Trunk of spinal artery. Fibro adipous mass.
Mening. & vasc. ramus.
fascia
Nerve of Luschka or N. sinu-vertebral.
Osseous & ligam. ramus.
Operculum.
Body of VI dors. vert.

Fig. 27

evident that any muscle element must be under the control of at least two kinds of nerve action, sensory and motive, in so far as its main function is concerned.

Resuming, we see (1) that certain degree of blockage of the capillary flow may produce anemic or ischemic conditions; (2) that constriction of the vessels may induce congestive conditions; and (3) that this blockage and that constriction are controlled normally by the action of vasomotor nerve fibers derived from the sympathetic system. In disease it is but natural to expect that the conditions of the affected tissues and fluids must exert a decided effect upon the nerves, in some cases intensifying their action, inhibiting it in others. By means of the above and of other data concerning spinal recurrent nerve fibers, mostly all of which was gathered purposely from old and reliable sources, we believe it possible to visualize more logically the development of the lesion, instead of remaining meekly contented with the rather indefinite, common notion of its generation through pressure on the nerve roots in the intervertebral foramina.

The Intervertebral Duct.—Figure 27 is a schematic transverse section of the vertebral canal and of its two adjacent intervertebral ducts; at the left are shown the main elements to be found in the duct, and at the right the radicular arteries and the various ramifications of the nerve of Luschka; the plane of the section passes at the upper edge of the apophyseal articulations. There was no special purpose in selecting the fifth and sixth dorsals for an example, except perhaps that they seemed suitable to represent average conditions of structure. The contour of the vertebral foramen was drawn accurately from the sixth vertebra of a male subject of large proportions; a template of it, made to scale, fitted almost exactly that of the second dorsal of a female subject of average stature, but no conclusions of value may be derived from that just now, except as to suggest a line of investigation. The proportions of the osseous parts are correct, but those of the cord, of the roots, and of the various membranes and ligaments are problematic, although based on findings gathered from a number of reliable sources.

The osseous contour of the duct is formed anteriorly by the posterior external part of the fifth dorsal, whose pedicle arches over to the upper edge of its lower articular facet, thus forming a curved roof; the posterior aspect is formed by the anterior surface of the articular process of the sixth dorsal; it is continued by the upper surface of the 6. D. pedicle, forming the curved floor of the duct which ends at the upper edge of the 6. D. body; the remaining gap is filled mesially by the intervertebral disk, and externally by the insertion of the head of the sixth rib.

The bony surface is covered by the periosteum to which are added fibrous tissue extensions from nearby ligaments, such as the anterior common lig.; the posterior common lig.; the stellate lig.; the costomeniscal lig.; the yellow lig., the location of which is well understood; the capsular attachments of the apophyseal articulations. Externally the orifice is closed by a sort of felted mass of fibro-elastic tissue spreading far over the border, where it appears as an extension of the continuous fascia which lines the periosteum on the anterior and posterior aspects of the vertebral bodies, as well as on the transverse processes and attached structures. This mass extends also well inside, for perhaps one-third of the length of the duct; some foreign anatomists have termed it an *operculum* and consider it as performing the function of a drum membrane, as the tympanum in the auditory canal. In this they have been influenced by the fact that they dissected dried specimens in which the mass had condensed to the point that it appeared as an actual plate. On fresh specimens from animals in a butcher shop such a plate does not exist, in its stead we may readily observe the felted mass. The intimate connection of the operculum with the fascia is most interesting, in this sense that disturbances befalling the latter are bound to affect the former and thence the organs in the intervertebral duct. The operculum attaches also unto the costomeniscal ligament, a fibrous fasciculus which extends from the posterior aspect of the head of the rib, through the intervertebral

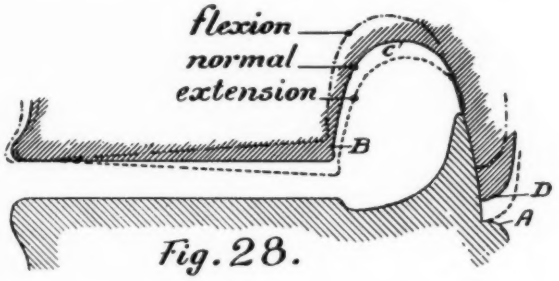


Fig. 28.

duct, under the posterior common ligament, and fastens upon the posterior aspect of the disk. Movement of the head of the rib may cause this ligament to pull or twist the border of the operculum. The latter has many orifices through which pass the nerves, arteries, veins and lymphatic vessels issuing from, or entering, the duct; it is closely attached to each of these organs and ensheathes them for some distance externally, just as a fascia. Much has been said and written about the compression of the nerves in the duct, but the conclusions have been far from convincing. The reason therefore is most probably that the compression has been considered from the viewpoint of bony displacements. It seems to us that the matter may be more profitably discussed by dealing directly with actual structural conditions.

Figure 28 represents drawn to scale, but enlarged, the external aspect of the intervertebral foramen formed between the fifth and sixth dorsal vertebræ from the spine of an adult subject; no special attempts were made in the selection of these because, except in cases of abnormal shapes or sizes, any two adjacent vertebræ should answer the purpose of the study. The delineation of the foramen and of the articular facets is very close to shape; that of the bodies themselves is schematic. We see that in extreme extension the movement is limited by an abutment at *A*, formed (in this particular instance) by a bony edge; it is also restricted by the contact of the fifth spinous process with the posterior ridge of the sixth; this is not shown in the

figure; we may note in passing that in forced extension there is a possibility of great trouble due to the fact that the spinous contact is unstable, and therefore the fifth process may be deviated laterally and made to slide on one side of the sharp crested sixth spinous process; the local consequences of such an occurrence may be: tearing of the supraspinous and interspinous ligaments, gaping of the apophyseal articulations, forced rotation of one body upon the other, overstraining of the capsular ligaments, overstraining of the so-called operculum.

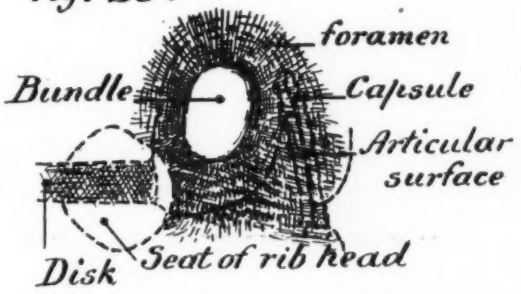
In extreme extension the area of the foramen is at a minimum, yet there seems no reason to fear for the contents of the duct, for the upper facet has traveled to the extreme range provided by nature and, unless the position should be unduly maintained, the temporary compression of the contents must be comparable to that of the vessels and nerves in a normally fully contracted muscle.

The *normal* outline in the figure is of course assumed as is also that of *extreme flexion;* both may be accepted as fairly correct. In this flexion the foraminal area is at its maximum, consequently the operculum, or occluding membrane, is stretched to the limit; this would seem perhaps more important as a disturbing element than the compression of the contents, for measured diagonally the fibers must be stretched about one-fifth of their length in normal position, and we would expect a tremendous pull on the attachments to the contents of the duct. As both extremes of flexion and extension are within the physiological range, and as there is nothing on record regarding the development of lesions due to the opening and narrowing of the foramen, we must assume that nature has provided some means of adjustment of the parts, whereby the ceaseless relative displacements of the vertebræ may occur in our daily activities without producing pathological derangements. We are led to assume that the concept of some of the leading anatomists who describe the operculum, in books issued within the last few years, as a membranous plate of appreciable thickness covering the foramen, is untenable and that, instead, the occluding mass, as we have observed ourselves, is not merely made up of elastic fibers capable of extensive stretching, but is formed as a flexible spout, drawn inwards during extreme flexion, and pushed outwards in extreme extension.

In view of the fact that many lesions are detected, treated and corrected, in which the vertebræ affected are found temporarily immobilized in positions well within the range of physiological motion, we feel amply justified in reaching the conclusion that the pathological condition of the contents of the duct did not proceed from mechanical compression caused by the narrowing of the duct, nor by the pull incident to the extreme stretching of the operculum. Of course we must not lose sight of the fact that while the palpation, or even the radiographs, may show the vertebræ practically in place, there is a possibility that the lesion was actually produced through a sudden displacement of much greater amplitude than the normal, with consequent pinching or other injury affecting the spinal nerves; after which the spine may have, even spontaneously, resumed its alignment, while thence on the developments of the lesion followed their course according to the gravity of the case. It is obvious that the consideration of such an occurrence cannot impugn our conclusion.

There is an aspect of the question upon which we desire to call attention with the utmost emphasis, as it has been thus far totally ignored, and we suggest that its study be undertaken in our research and college laboratories at an early date; the attendant work consists of minute dissection, and its success depends on clear and unbiased observation. In pounding over and over again figure 28 we were led to visualize the possibility that the operculum could be attached firmly to the bony structure of the upper vertebra, extending across the greater part of the foramen from *B* to *C* to *D* and thence to

Fig. 29.



B, in the manner of a loose tympanic membrane, while the lower part attached to the subjacent vertebra could have folds and festoons. In this manner the motions of the upper vertebra could take place without disturbing the nerve and vessel bundle which, implanted in the operculum, would be carried up and down with it. Such an arrangement may be represented schematically as in figure 29; the capsule which must have entire freedom of displacement is underneath the operculum; the latter is attached beyond the capsule to the body of the upper articular process, and it is continued by the common fascia; it is attached also to the ligamentous structures maintaining the head of the rib in the seat provided on the edges of the vertebral bodies. We hope that our suggestion may be acted upon and that the results of the investigation may clarify this most interesting point.

Contents of the Duct.—Within the duct are: (1) the radial nerve, formed by the apposition of sensory and motor nerve fibers, and sheathed in extensions of the meningeal membranes; (2) the terminal strands of the posterior root at their union with the ganglion, the ganglion itself, and the strands of the anterior root; all these structures have meningeal sheathings; (3) the spinal artery; (4) at least one spinal vein, sometimes several, draining the blood from the cord and the nerve roots, from the meninges, from the ligaments and other supporting tissues, from numerous and extensive plexuses; (5) venous plexuses; (6) lymphatic vessels; (7) loose epidural supporting tissue; (8) an epidural sheath surrounding (7); (9) a fibroadipous mass filling the annular space between the epidural sheath and the periosteum lining the duct; (10) the nerve of Luschka, or N. sinu vertebral, or N. recurrent meningeal.

Some authors claim that the duct contains three very distinct concentric departments: *(A)* one central, for the spinal nerves and artery, enclosed by a dural sheath; *(B)* one annular, located between the dura mater and the epidural sheath, filled with loose supporting tissue and with abundant lymphatics; *(C)* the last one is filled with fibro-adipous tissue and with the veins and their plexuses; it extends between the epidural sheath and the periosteum. If it were so, obviously the weakest point in the whole structure would be in the third compartment, within which compression of the veins and plexuses could easily occur, and with far-reaching results, as will be shown further on.

The spinal roots are usually represented as substantial funiculi originating from the cord and finally uniting, past the ganglion, into one larger funiculus, the spinal nerve proper, issuing from the intervertebral duct. Each original funiculus is actually formed of a number of radicular filaments; posteriorly there is an uninterrupted series of eight to ten filaments regularly spaced vertically, and each insulated in meningeal sheathing; they descend gradually, to coalesce when traversing the dura mater about at the level of the duct; incidentally, this disposition permits the funiculus to more readily adjust itself to the motions of the spine; arriving at the ganglion the filaments appear to separate before penetrating it; the spaces between the various branches are filled with arachnoid tissue and are bathed in cerebrospinal fluid. Anteriorly the radicular filaments issue from the cord in groups of two or three, each containing from four to six secondary fibers, and they align vertically in two or three rows in a space of two to three mm.; the interval between two anterior roots is always clearly defined and appreciably greater than that between the various filaments of one root.

Around each funiculus are, concentrically disposed, the pia mater, the arachnoid, and the dura mater, all continued from the main membranes surrounding the spinal cord. In this way are formed two infundibula which unite into one enclosing the external part of the ganglion and the anterior root bundle, so that practically from the external aspect of the ganglion to the main dural space there is cerebrospinal fluid. But the circulation in each fundus cannot be as active as in other wider spaces, and may in pathological conditions become sluggish to the point of stagnancy.

This consideration inspired Dr. Tinel to write a "Thesis on Radiculitis and Tabes" (Paris, 1911), in which the author attributes to the impeded circulation thus localized the causation of inflammatory processes affecting the roots, but oftener the posterior. He claims that in any case of meningitis (spyhilitic, tubercular, cerebrospinal, etc.) a considerable accumulation of leukocytes may be found in the infundibular interstices, whereas in the subdural space there is only but a discreet reaction. The work contains about sixty micrographic illustrations of sections of spinal and cranial nerves, and of ganglia. The conclusions are of great interest in themselves and lead to considerations of importance to our profession. It seems obvious that any meningitis tends to promote radicular lesions because of certain anatomical and physiological conditions: *(A)* the structure of the meningeal sheath; *(B)* the cerebrospinal circulation; *(C)* the settling in the infundibula of leukocytes and of the toxic matters they may contain. The nerve fasciculi in contact with such stagnant material undergo a localized degeneration; then follows a fibrous organization of the sheaths, a real symphisis which may contribute in producing an irreparable nervous lesion; that is the processus of the *radicular transverse neuritis* described by Nageotte. In transient meningitis the radicular lesion heals, leaving generally a sclerous nucleus traversed by nerve fibers, dissociated and sometimes bereft of myelin. In prolonged meningitis the degeneration of the posterior root, at first localized in the infundibulum may extend towards the cord and reach an intramedullar area. And thus is established a real lesion of tabetic kind which is common to all meningitis, particularly tubercular and cerebrospinal, when they have lasted long enough for it to develop; these are true histologic tabes.

Cranial and spinal roots are subject to similar lesions resulting from the same causes. For both the degeneration of the roots in contact with leukocytic masses is the much more intensive as the nerve fasciculi are most divided. Hence the anterior root traversing the region as a compact bundle is usually but little affected, whereas the posterior root is seriously lesioned only where the infundibulum is affected in the neighborhood of the internal aspect of the ganglion, where the root is divided into a number of fasciculi, in the interstices of which the toxic deposits accumulate. This is the weak spot of the posterior root; it is found in the sheath of the lumbar roots of the upper sacral, and of the lower cervical plexus; there it is that the destructive action of meningitis obtains most often.

Cranial nerves, particularly the third or oculomotor, and the fourth or trochlear, have also a weak spot through fascicular dissociation, and these lesions are severest when the affected sheath reaches its level.

Any processus of coalescence or of partial symphisis of the meningeal sheath, such as results from age or from minor irritations tends to locate these weak spots away from the infundibulum and thus more difficult of access by the toxic elements. Thus may be explained certain variations of the localizations and of the lesions of meningitis and tabes.

Besides the action of the toxin accumulations in the infundibulum and of which leukocytes seem as the vehicles, a place should be reserved for the diffuse actions of soluble toxins, whose role is demonstrated on the core as well as on the roots, and even on the ganglion and the peripheral nerves.

While any meningitis is apt to produce anatomically a kind of tabetic lesion, clinically it is found that syphilitic meningitis alone leads currently to the tabetic syndrome. This is likely due to slowness and duration of evolution, and to the specific toxic coefficient; it reaches the tabetic status only when the disease is in latent, attenuated form.

It seems logical to ascribe the noci-action of the leukocytes, in contact with the nerve fasciculi, to microbian endotoxins, but it is possible that the leukocytes themselves may prove toxic, since it is possible also for the red cells to become so. In one

case of cerebral hemorrhage it was observed that blood filled the sheaths, settled in the infundibula, dissociated the nerve fasciculi, and that wherever the red cells infiltrated the latter there was considerable demyelination.

It is customary in clinical and laboratory circles to inculpate specifically germs, endotoxins, exotoxins, soluble toxins, dead phagocytes, etc., as the primary causative factors of disease; but that the organic fluids themselves may prove toxic and, through the permeability of the nerve elements, induce action on the tissues and organs of the body favorable to the preparation of a terrain suitable to the invasion of the germs and development of the toxins, is a theory almost irreducibly impossible of general acceptance by the medical profession; yet the soundness of this theory may be established by the results of investigations conducted by two of its most eminent men, viz.: Claude Bernard and Ranvier.

Toxicity of the Blood.—In his lectures on the physiological properties and the pathological alterations of the organic fluids, delivered in 1859 at the College de France, Claude Bernard conducted many experiments on the transfusion of blood in animals. For instance, two subjects, two rats, similar in every respect and in the best normal condition were selected: one was fed regularly while the other was deprived of solid food for a certain length of time; blood was drawn from the latter and immediately injected in the vein of the well fed rat, which very soon developed pronounced symptoms of illness and became as weak as the famished rat. This was only gross experimentation. In another test two rats were selected as before, but their blood was first analyzed; then one rat was famished and the other fed for a period of time, at the end of which the blood of each rat was tested again, and that of the weak rat injected into the well one. The results were of course the same as in the previous test, but this time they were explainable, due to the fact that the analyses showed that in normal condition the blood of the two animals was practically uniform in quality, whereas that of the famished rat had undergone such considerable chemical modifications as to render it toxic for the other rat.

The same kind of tests were conducted on other animals, some of which were kept normal while some others were subjected to prolonged muscular exertions resulting in intense fatigue. Blood taken from the latter and injected into the well rested animals brought these to a painful state of fatigue; not only did they appear as tired as the overexerted animals, but in addition they seemed to suffer pain. This is explainable by the fact that in one case the fatigue was gradually developed, whereas by injecting the "fatigued blood," which was analyzed and found greatly modified, an actual disease condition was introduced into the normal subject.

The tests just mentioned are well known and have been repeated many times in laboratories; their results are such as would be expected since we now understand the effects of chemical changes in the blood, that were purposely induced. But in other tests two similar normal animals were selected; blood was drawn from one, kept aside for about thirty minutes, and then injected into the other. Depending on the manner of handling the blood the results differed in degree of severity. After exposure to the air, the serum separated from the mass, and when injected into either animals symptoms of putrid infection developed, usually with fatal results. With the blood kept at normal temperature and preserved from atmospheric action during various lengths of time, it was found that it had nevertheless become toxic, and increasingly so, of course, as it had been kept longer before injection. In these latter cases the blood was merely kept at rest, prevented from circulating, so to speak, and yet, away from outside influences it became decomposed. What useful conclusions may we draw from all these considerations?

Of course anyone may point out the obvious danger of reintroducing into one's body blood that had been removed from it, but while that represents a very extreme condition, we must recognize that there are others in which the blood, while not removed from the body, is nevertheless hindered in its course. That is the case with congestions induced by many causes such as exposure, physical and mental fatigue, emotions, over-exertions, digestive disorders, etc.; in all of which muscular contracture is ever present, affecting directly some part or other; the circulation is retarded; there is some degree of chemical disorganization of the body fluids, formation of acidity with consequent symptoms of pain, acute, rheumatic, or latent (revealed by palpation); in the processes of repair of the various body tissues, as we have mentioned at times, there is always congestive involvement, that is necessary, but when there is insufficient power of resorption the gravest consequences may result. In short, congestion opens the door to discomfort, at least, to dysfunction, and prepares the terrain for disease. After all this is all in accordance with the universal law of ceaseless activity; it rules the infinitely great as well as the infinitely small, and any arrest of that activity is fraught with danger of disruptive consequences, of disaster and, at the limit, of death as we understand it. The very few experiments herein cited should suffice to illustrate our viewpoint; for more enlightening information the reader is referred to the numerous works of Claude Bernard. The following short quotation translated from his "Experimental Pathology" (Paris, 1859), may whet the appetite of the seeker after knowledge: "As we rise towards the higher orders we see the nervous system increasingly developed, but also that diseases are more frequent, more varied in form and more complicated in kind. We should not wonder at this, since all our organs, in their vital manifestations, normal or pathological, depend on the nervous system. If we consider one after the other the divers organs of the body, we may easily demonstrate that all the symptoms of the diseases likely to affect them may be traced to the direct influence of the corresponding nerves. We may even produce all of the anatomical lesions characterizing these diseases by experimental action upon the specific nerves; for instance . . . etc., etc."

Effect of the Surrounding Medium on the Nerve. Most exacting experiments performed and described by Professor L. Ranvier during his lectures on "Histology of the Nervous System," at the College de France, 1876-1877, throw a most impressive

light upon this subject. We have already described some of them in the *Journal of Osteopathy*, Kirksville, 1927. Their consideration coupled with the findings of Claude Bernard and of Dr. Tinel will prove valuable in the pursuit of our subject.

A live rabbit was secured on a board, and an incision made as to permit the sciatic nerve to be exposed for a length of nearly two centimeters. The wound was spread apart in cup shape, with the nerve at the bottom and its surface entirely free from contact with the surrounding tissues. Then, water at the temperature of the animal, was allowed to flow in the cavity without impinging upon the nerve itself. In this way the temperature was maintained practically constant and the bath remained really aqueous. Effectively, if the cavity had been merely filled with water, the latter would have diffused into the surrounding tissues which, in exchange, would have given up part of their plasma, so that the nerve would have been bathed, not in water, but in a heterogenous mixture of water and blood serum.

After an irrigation lasting twenty minutes the nerve had lost all its properties. Electrical or mechanical excitation produced neither pain nor motion, whereas above the denuded region the nerve was still sensitive, and below was still motor. It was observed that after a few minutes of irrigation water must have begun its action upon the nerve, causing an excitation evidenced by convulsive motions of the leg involved; these gradually ceased and the irritability of the nerve diminished progressively.

Another experiment was conducted on a rabbit, the two sciatic nerves of which were exposed and prepared as before. One was irrigated with tap water and the other with a 5% saline solution, both at the same temperature of 30° C. After twenty minutes, the nerve in the aqueous solution had lost all its properties, whereas that in the saline solution was perfectly sensitive and remained so even after one hour of irrigation. On another rabbit the saline irrigation was maintained for five hours, and it was found that the nerve responded perfectly to various stimuli.

In one test, after twenty minutes of aqueous irrigation the wound was closed, and three days afterwards functional tests of the nerve were made; it was then seen that the segment below the irrigated part and which, immediately following the experiment had retained its properties, had now lost all its excitomotor power along its entire extent. The nerve was then removed, treated with osmic acid and prepared for microscopic examination. It was seen that modifications had taken place exactly similar in kind to those manifest in the peripheral end of a sectioned nerve. Water had thus stopped permanently the conductivity just as would obtain through section with the knife.

The modifications in the nerve structure were practically the same with the aquous as with the saline irrigations. Water penetrated at the node, pushed the myelin on each side away from it, perhaps absorbing a little of it; the axis cylinder, then in a medium becoming more and more aqueous, gradually swelled up until it filled all the space from which the myelin was displayed, limited only by the sheath of Schwann and the protoplasma surrounding it. We must regretfully leave aside the wealth of details given by Professor Ranvier, and conclude rather too briefly that the saline solution, while penetrating at the node and swelling the axis cylinder did not, as the aqueous, alter the essential parts, so that these were not disorganized and the nerve fibrillæ remained good conductors of the nervous influx. The saline solution is ordinarily used for intravenous injection after severe loss of blood; its density and action resemble those of animal fluids; hence it does not seem too strange that it was without marked effect on the nerve fibers; the lesson these experiments teach us is that any change in the composition of the body fluids in contact—externally—with nerves is bound to affect the structure of the latter, and to a certain extent their function, depending upon the degree of diminution of the alkalinity of the fluids, consequently more so when the latter is neutralized and when acidity may be present. (Although the plasma may contain a dangerous amount of carbonic oxide, the blood as a whole must of course retain an alkaline reaction, failing which life would come to an end).

Role of the Meningeal Membranes in the Infundibula.—In his thesis, Dr. Tinel lays the greatest stress on the circulation of the cerebrospinal fluid within the restricted spaces between the roots and the internal aspect of their envelopes, and accepts as proven *that any meningitis tends to promote radicular lesions of a tabetic kind.* If by meningitis we understand the disease in general as diagnosed according to specific symptoms, the matter is far less interesting for us than when we consider the definition of the word itself: meningitis meaning inflammation of the enveloping membranes of an organ. The archnoid is composed of two layers separated by a capillary space. Bichat in his "Treatise on Membranes" (Paris, 1800), described it in great detail as a serous membrane intended for the protection and the insulation of delicate organs. To that effect the inner, or visceral layer, follows the nerve roots to their confluence in the infundibula, then reflects upon the internal aspect of the dura, at first loosely, as a parietal layer which, further on, adheres strongly to the dura in the form of an endothelial film. The interlayer capillary space contains a fluid whose obvious function is to lubricate the surfaces in apposition, thus permitting their free relative displacements, and also preventing their adherence; this would show that provision was made for an infundibular adjustment of the roots to the motions of the spinal column. It has been observed in cases of inflammation of the arachnoid that a considerable viscous exudate was present. The normal fluid must originate from some kind of transformation of the blood; it is subject to deterioration and is the recipient of waste materials from the vicinal tissues, hence it is imperative that it should be evacuated; therefore there must be an active circulation serving particularly such an essential membrane; any such circulation must be under the control of nerves. Consequently, a cause producing dysfunction of these nerves would induce disturbance of the circulation, congestion, inflammation of the arachnoid, hence local meningitis, hence formation of a noxious medium surrounding the roots, with all the serious consequences mentioned

heretofore. We see then that it is not necessary to invoke the impeded circulation of the cerebrospinal fluid as the main causative factor of meningitis. In fact much could be said anent this circulation; if it exists as such, it must be controlled very adequately by special means to suit the delicate organs bathed by the fluid *in the infundibula,* and nowhere do we find a description of these means which, besides, would necessarily be under nerve control themselves.

An interesting statement is found in Poirier's Anatomy regarding the finding of ossiform plates on the arachnoid, often on the spinal, more rarely on the cerebral. These plates, more common in old subjects and in chronic diseases of nerve centers, were found also in the spine of normal subjects in the proportion of six in twenty, four of which were in twenty-five to thirty-five year old individuals. They are usually multiple, star-shaped, and formed of fibrocartilage infiltrated with calcareous salts. This is of extreme importance for us as it permits to visualize the unsuspected existence of chronic spinal lesions, a subject to be considered later on.

Some Surgical Aspects of the Bony Lesion

Louisa Burns, D.O.

This is a report of findings of accidental origin. During the three months just ending we have been making a study of the gross circulatory changes through ductless glands which occur during the few minutes immediately after bony lesions have been produced in laboratory animals. In causing the lesions, the animals were held for varying periods of time under anesthetic in such positions that the selected vertebræ were kept in a position of lesion. The condition is that which might easily occur in the human subject about to undergo an operation if the body were allowed to lie in an awkward position which might tend to cause a lesion, during the administration of the anesthetic or during the operation. This aspect of the experimental condition did not occur to us while the work was being planned.

White rats were first used. Lesions of the occiput, atlas, axis, and the third, fourth, fifth and sixth cervical vertebræ, and of the first, second and third thoracic vertebræ were produced in different rats in order that changes occurring in the thyroid gland as a result of such lesions might be noted. The rats were held by the head and the selected vertebræ were kept in the position of lesion by pressure between the transverse processes, which pressure forced the vertebræ apart upon one side. The lesion thus produced in the white rat by pressure lasting three to five or ten minutes was permanent. In the case of the occipital lesion the head was forced to one side while the cervical vertebræ were held in a normal position. The pressure was often begun a few minutes before the anesthetic was given, and no evidence of discomfort was shown by the animals. After ten minutes or so the lesion thus produced was permanent.

The white rats which received lesions of the occiput, axis, and atlas succumbed to the anesthetic much more quickly than did rats with no lesions, and they died more speedily. About two-thirds as much ether or chloroform was required to produce anesthesia in these animals as was necessary for normal animals under exactly the same conditions. The lesioned animals, however, died during the early stages of the experimental operations more quickly than did the normal animals. The deaths seemed to be due to surgical shock, both in normal and in lesioned animals, but this shock occurred more suddenly and terminated fatally more quickly than was the case with normal animals.

This relationship having been observed, other animals were tested in the same manner. Guinea pigs and rabbits show similar effects due to the lesions mentioned—the occiput, atlas and axis. Rabbits showed more marked results of the lesion than did the white rats so far as the sudden and fatal shock was concerned, but lesioned rabbits required about three-fourths as much of the ether or the chloroform to produce complete anesthesia as did normal rabbits under the same conditions. The difference between normal and lesioned conditions in cats was somewhat less marked, but in these also fatal shock under experimental operations was more sudden and death more speedy in lesioned than in normal animals.

Animals with old lesions of these vertebræ and the occiput showed less marked effects, and in some cases even a larger amount of the anesthetic was necessary than for normal animals. These animals died before total anesthesia was produced, apparently from the toxic effects of the ether or chloroform. The number of animals with old lesions thus studied was too small for definite reports as to the mechanism of the reactions. That there is some pathogenetic influence of occipital and upper cervical lesions upon animals under surgical anesthesia is certain, however.

Lesions of the other cervical vertebræ exerted somewhat less marked influence but this was of the same type. Lesions of the second to the fourth thoracic vertebræ are already known to affect the action of the heart adversely, and this effect is marked under anesthesia. The animals so lesioned died during surgical procedures after preliminary cardiac symptoms. Tachycardia always preceded death, while in the animals with the upper cervical lesions death was much more sudden.

Lesions of the fifth to the seventh thoracic vertebræ exerted less marked effects, though animals with these lesions, whether newly produced or of long standing, died more quickly than did normal animals under anesthesia.

Lesions of the eighth to the eleventh thoracic vertebræ cause congestion of the abdominal viscera. Operations upon these viscera are associated with more severe hemorrhages than are similar operations upon nonlesioned animals, and this is true whether the lesions are recent or are of long standing. It is true that acute lesions cause temporary constriction of the blood vessels for an appreciable time, but this is rarely more than a few seconds in duration. It is difficult to determine whether the speedier death of these animals is directly due to the lesions, or is altogether due to the more severe hemorrhages caused by the vasodilatation of the affected viscera. The ninth thoracic lesion causes

especially marked congestion of the spleen, and animals with this lesion die from shock rather more quickly than do animals with other lesions. Ninth thoracic lesion causes dilatation of the mesenteric blood vessels also, so that hemorrhages are severe upon relatively slight injury.

Lesions of the upper lumbar region affect the circulation through the pelvic tissues. Animals with these lesions bleed much more freely during operative procedures upon these viscera than do normal animals. There is no definite indication that such lesions affect death from shock in any way. Manifestly deaths from hemorrhages are more apt to occur in animals with lesions which cause dilatation of the blood vessels of the operated viscera.

Lesions of the eleventh to the thirteenth thoracic vertebræ cause dilatation of the blood vessels of the adrenals. Animals with old lesions of these viscera show chronic congestion of the adrenals. The glands are purplish instead of pinkish in color and are soft and edematous. On microscopic examination small areas of hemorrhage per diapedesin are found, and there are tiny stained areas which are undoubtedly due to the degeneration and partial absorption of hemorrhages which occurred previous to the death of the animal, since all intermediate stages between recent hemorrhages, old hemorrhages, partially digested blood cells and the stained areas are recognizable. Animals which have had such lesions for some months or years always have abnormally low blood pressure, and persons who have lesions of the eleventh and twelfth thoracic vertebræ have also low blood pressure. Animals with either recent or old lesions of the eleventh to the thirteenth or fourteenth thoracic vertebræ die more quickly from shock than do normal animals.

A few records of human subjects are of interest in this connection.

Mrs. L., age 40 years, came to clinic complaining of general weakness and atony of intestinal and abdominal muscles, with constipation, occasional attacks of indigestion which varied considerably in type, and some breathlessness. History of surgical operation upon the pelvic organs was given, but the nature of this operation was not known. She was under medical care at the time. The operation was performed because of abundant bleeding both at menstruation and at irregular intermenstrual intervals. She had not menstruated nor noted any bleeding since that time. After the operation she was surprisingly weak and her convalescence was extremely slow.

Blood pressure low; diastolic, 70 mm. Hg., systolic, 100 mm. Hg., did not vary more than 10 mm. as a result of psychic stimuli, though varying tests were employed. X-ray examinations showed atonic gastro-intestinal tract with moderate ptosis. The gastric juice was normal. Abdominal muscles atonic. Thoracic viscera normal except that the heart's muscle seemed weak. Blood examination showed moderate secondary anemia with moderate toxemia apparently of intestinal origin. Uranalysis indicated nothing abnormal on first examination, but on second examination moderate amounts of globulin and many cells from the tubules were found.

There was a well marked lesion of the eleventh thoracic vertebra and another, apparently secondary, of the second lumbar vertebra. Correction of the thoracic lesion led to increased tonicity of the abdominal muscles, an increase in the blood pressure, both diastolic and systolic, of fifteen mm. Hg., and relief of the symptoms. Complete recovery of normal tone of blood vessels and viscera with normal strength of the heart did not occur and was not expected.

Miss K. Autopsy after sudden death occurring during early anesthesia. Age 28 years. Operation planned for appendicitis in medical hospital by medical surgeon. Death occurred before anesthesia seemed quite complete. Ordinary autopsy findings showed no cause for the death. Lesion of the occiput on the axis was present, and this was associated with evidences of an old occipital lesion with recent exacerbation of the lesion. On questioning the anesthetist it was found that he had the habit of holding the head very firmly with one hand during early anesthesia; he said that he had noted that such custom seemed to "put them to sleep more quickly, probably by preventing struggling." Asked to illustrate the method of holding the head, he indicated a position which would, very evidently, produce a lesion of the occiput on the axis. Sudden deaths had not previously occurred during his rather short practice as an anesthetist. Lesion pathology was explained to him, and while these relations were not accepted by him the affair led to a change in his methods.

Mr. R., age 28 years, came to the clinic because he suffered severely from adenoids. He had spent some time in a medical hospital preparing for an operation upon the throat. When he was given ether, preparatory to the surgery, the heart became so rapid and so weak that anesthesia was stopped and the operation postponed. He was kept resting in the hospital for three weeks, during which time the operation was planned twice and was actually begun a second time, with the same cardiac symptoms. He then left the hospital intending to avoid the operation altogether. However, the nasopharyngeal obstruction to breathing increased and he came to the osteopathic clinic hoping for relief.

On examination the adenoids, of unusually large size, were found. The tonsils did not present such marked pathology as might be expected under the circumstances. The sphygmogram suggested an atonic condition of the cardiac muscle.

A lesion of the second thoracic vertebra was evidently primary, and lesions of the first, third and fourth thoracic vertebræ seemed to be secondary to the primary lesion. Correction of these lesions was followed by moderate diminution in the size of the adenoids and some relief in the dyspneic symptoms, but the adenoids were too large for any rational hope of giving Mr. R. any real comfort without their removal.

With correction of the lesions the mild cardiac symptoms disappeared altogether. The attacks of breathlessness on slight exertion, which the patient attributed to the adenoids, disappeared after the correction of the lesions. No doubt this breathlessness was of cardiac origin, really. The sphymogram taken three weeks after the correction of the lesions showed a normal curve. The patient was then sent to an osteopathic hospital, was given

ether very carefully, and the adenoids were removed without any difficulty. Recovery was uneventful.

There seems to be no doubt that the lesions affected the heart so seriously that the first attempts at anesthesia were difficult, and that after the correction of the lesions the anesthesia could safely be administered.

Mr. F., aged forty years, came to the clinic complaining of some digestive difficulty with puzzling symptoms. On physical examination the stomach and intestines were found greatly dilated with gas. There was a short and very definitely limited curve extending from the sixth thoracic to the eleventh thoracic vertebra. There was also an occipital lesion which was apparently of several years' standing. The tissues were hypersensitive in the area of the curvature and there was tissue tension of unusual degree. He gave a history of accident which immediately preceded his indigestion. After the physical examination he did not again appear for further examinations or for treatment.

Four weeks later his death was reported. He had consulted some medical surgeon who advised an exploratory operation, because of the puzzling nature of the symptoms. He was given ether; total anesthesia followed the inhalation of a surprisingly small amount, and he died, apparently from shock, within a few minutes after the abdomen was opened. Autopsy by the same surgeon a few hours later showed no cause for the sudden death. The abdominal viscera showed moderate ptosis but no very abnormal conditions. The spleen and pancreas were congested, but there was nothing in the findings to explain the symptoms nor the sudden death, to the satisfaction of a medical mind.

From the preliminary examination in the osteopathic clinic it seems very certain that the speedy anesthesia and the sudden death were due to the occipital lesion, and that the symptoms were due to the thoracic lesions caused by the accident which he reported.

There is much more work to be done before the mechanism of these relations can be described in detail. The cause of many sudden deaths occurring during surgical operations or soon thereafter, and the cause of many surgical complications may be found in the existence of chronic lesions in human subjects. Carelessness in handling anesthetized persons so that acute lesions may be caused, and carelessness in allowing the head and neck of the patient to remain in an abnormal position may account for a certain number of sudden deaths during operation. The latter condition may be due to the anesthetist, who places the patient's head in such a position that he can conveniently watch the pulse, respiration and circulation, but who may not realize that cervical lesions are very easily produced by an abnormal position of the head and neck during anesthesia.

The moral of this story is that pre-operative correction of such lesions as may be found on examination exerts a beneficial effect greater than is realized by any but osteopathic surgeons; that the anesthetist should be instructed to avoid strain upon the cervical tissues of the patient, and that he should change the position of the head and neck, slightly, if the operation requires more than a very short period of time. Only slight change in the position of the head and neck is necessary to relieve strain, and this is all that is necessary to prevent lesions from occurring.

Sunny Slope Laboratory of the A. T. Still Research Institute

Symposium on Acute Diseases

PAPERS CONTRIBUTED BY SPEAKERS ON THE CONVENTION PROGRAM, ACUTE DISEASE SECTION, PHILADELPHIA, 1930

Osteopathic Prognosis and Therapeutics in Acute Infectious Diseases*

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Physicians who have made a specialty of diagnosing and treating cardiac diseases have observed that many of the sudden deaths which occur in the cases of acute infectious diseases are due not to organic pathological changes in the vascular system itself, but to a functional pathological condition characterized by a dilitation of the general vascular system of the human body, with a resultant lowering of the blood pressure to a point below that which is necessary to maintain circulation.

Granting the truth of these observations, it then becomes imperative for the general practitioner to watch very carefully the blood pressure of these patients and employ every means at his command to prevent a rapid lowering of the blood pressure which may prove fatal to the patient.

The question naturally arises as to what means shall be employed to avoid this condition, and we, as practitioners in the osteopathic profession believe that both theoretically and practically, osteopathic manipulation is the best therapeutic measure to be used. Some idea of the value of proper adjustment may be gathered from the fact that the fourteenth edition of Potter's Therapeutics, Materia Medica and Pharmacy says, "There is no scientific dogma better established than this, that the living organism is, in itself, adequate to the cure of all its curable disorders."

We osteopathic physicians know that this law of natural therapeutics cannot function to its greatest efficiency unless the body of the patient is in proper equilibrium, or adjustment, mentally, chemically and mechanically.

The mental adjustment may be accomplished by a proper environment for the patient, and a cheerful and optimistic attitude on the part of the physician, thereby administering to the patient hope, that universal medicine administered by all schools and cults of the healing art, and without which few patients would ever survive.

*This paper was read in June, 1930, at state osteopathic conventions held at Coronado, California; Salem, Oregon; Spokane, Wash., and Salt Lake City, Utah.

The chemical adjustment may be accomplished by the administration of the proper diet, foods, or chemicals which are found to be indicated after careful laboratory examinations such as urinalysis, blood chemistry, stool examinations, etc. And last, but by far the most important help to natural therapeutics, is the mechanical adjustment administered by the competent osteopath after a careful physical examination of the patient during which his detailed knowledge of the anatomy and physiology of the parts of the body enables him to recognize any improper mechanical adjustments and to correct them.

Then where, how and when will we have to manipulate our cases of acute infectious diseases to prevent a serious and possibly a fatal lowering of the patient's blood pressure? This question is best answered by a consideration of the anatomy and physiology of the autonomic nervous system, for while we all agree that the rule of the artery is supreme, yet we know that the function of those blood vessels is under the direct control of the nervous system. The autonomic division of the nervous system takes care of those functions which are not directly under the control of the will, and is divided into two parts according to function, namely, the parasympathetic and the sympathetic divisions.

The parasympathetic division is concerned chiefly with conservation of energy, with building up bodily reserves against the time of bodily stress or strain at which time it may be used to prolong the life of the individual. No one as yet has been able to demonstrate the existence of parasympathetic fibers in either the upper or the lower extremities of the body, but they have an extensive distribution through the head, neck and trunk. The parasympathetic division has a craniobulbar outflow in the trunks of the third, seventh, ninth and tenth cranial nerves, and a sacral outflow through the second, third and fourth sacral nerves. The first and second cervical nerves communicate with the vagus so that the function of the parasympathetic nervous system may be materially altered through the presence of occipito-atlantal and sacro-iliac joint lesions.

The sympathetic division of the autonomic nervous system is directly opposed, functionally, to the parasympathetic division, and is therefore chiefly concerned with expending energy and reserves at a time of bodily stress or strain in an effort to maintain the life of the individual at any cost. So we see that the proper functioning of the entire autonomic nervous system is the all important factor in the law of natural therapeutics. The nerve cell bodies of the sympathetic division are located in the lateral horn of grey of the spinal cord, in the lateral ganglia on the sides of the bodies of the vertebræ, in the collateral ganglia such as the cardiac, celiac and hypogastric, and in the terminal ganglia within the walls of the viscera themselves, such as the ganglion cells of the plexuses of Auerbach and Meisner in the walls of the intestines. The cells of the sympathetic system which control the caliber of the blood vessels in the upper extremity are located in the lateral horn of the spinal cord from the fourth to the tenth thoracic segments inclusive, while those which are distributed to the lower extremity are located in the lateral horn of grey of the spinal cord from the eighth thoracic down to the second lumbar segments inclusive. From this arrangement we see that at the eighth, ninth and tenth thoracic segments, there is an overlapping, and these three segments will affect the caliber of the blood vessels of both the upper and the lower extremities of the body. In addition to this, the thoracolumbar outflow of the sympathetic fibers through the greater, lesser and least splanchnic nerves, comes from the fifth thoracic to the third lumbar segments inclusive. Therefore the eighth, ninth and tenth thoracic segments not only exert a definite influence upon the caliber of the blood vessels of the upper and lower extremities, but also act upon the splanchnic blood vessels.

The areas of distribution of the autonomic nervous system are termed areas of low sensibility, and the areas of distribution of the central nervous system are termed areas of high sensibility, and the physiological law propounded by Sir Henry Head in effect says: "An irritation, or stimulation arising in an area of high sensibility will be referred to the area of low sensibility in close connection with the same segment. The general effect of stimulation of the sympathetic cells is to cause contraction of the smooth muscles in the walls of the blood vessels supplied by them with the exception of those within the thorax. Stimulation of the eighth, ninth and tenth thoracic segments, particularly the ninth, should in accordance with Head's law produce a decrease in the caliber of the blood vessels distributed to the upper extremity and lower extremities; therefore, we find that the ninth thoracic segment is where we should treat the patient to get the maximum increase in blood pressure.

The question of how to treat, varies a great deal with the condition, size and age of each patient. We will assume that the patient has been carefully examined, and all existing joint lesions have been found and corrected. We know that the patient is suffering with an acute infectious disease, and that the sympathetic division is necessarily putting forth strong efforts along natural therapeutic lines, and that any additional treatment we may give at this time will be in the nature of a stimulant to drive the sympathetic division to greater efforts than normal. Practical experience demonstrates that this stimulation can be produced in the following manner: the occipito-atlantal joint is rapidly put through its entire normal range of motion some five or six times, followed by the maintenance of a firm steady pressure in the region of the suboccipital triangle for a period of one and one-half to two minutes. This manipulation tends to lower the blood pressure by inhibiting the sympathetic division, but due to this inhibition, the sympathetic division makes a very rapid response to the second procedure which immediately follows, and this is accompanied by fixing the tenth thoracic vertebra, and moving the ninth upon it through the normal range of motion of that joint for a period of from one to two minutes. If the above procedure is followed carefully, the patient will show a transitory fall in blood pressure, followed immediately with a rise of from eight to ten points in the systolic pressure, while the diastolic reading will make little or no change. This increase in systolic pressure will frequently be maintained for from three to four hours. When the physical condition of the patient

will not allow a very strenuous manipulation, as is frequently the case, the preliminary occipito-atlantal work should not be eliminated, but instead of manipulating the joint between the ninth and tenth verbebræ, we may substitute a light pinching of the skin of the ninth intercostal space, gradually proceeding from the vertebral column forward along the interspace, and taking in an area on the anterior abdominal wall from the umbilicus upwards for about three inches. This procedure will usually cause a slight drop in the diastolic pressure as well as an increase in the systolic pressure, and the changes are maintained for from thirty minutes to two hours. In practice where it is not convenient to see your patient several times during the day, one may have a nurse or attendant repeat this procedure at one-hour intervals between your visits.

Having considered where and how to treat our patient, our last question as to when to make use of this treatment in acute infectious fevers can be briefly answered by stating that when the blood pressure begins to fall gradually, as much as eight points below our conception of normal for that individual, we should begin to apply our treatment.

The time of indication for the administration of the treatment outlined herein coincides exactly with the time when those of little faith begin to consider the administration of such medicinal agents as atropine and digitalis. It is unnecessary to enter into a detailed discussion as to the advisability of using any of those drugs which may have a highly desirable apparent effect, but which are also usually accompanied by several more or less undesirable effects when we know that we can by proper manipulative procedures bring about all of the desirable reactions without any of the undesirable effects. Digitalis is undoubtedly a very valuable drug, and it is also one of the most abused drugs in the entire materia medica, and it is my personal opinion that it has no place in the armamentarium of the general practitioner, but should be left entirely in the hands of a cardiac specialist and used only under his direction.

Summary.—

1. Many sudden deaths in acute infectious diseases are due to failure of the patient to maintain a sufficiently high blood pressure.

2. Osteopathic physicians can increase the blood pressure by appealing to the autonomic nervous system by a manipulative treatment directed first to the occipito-atlantal articulation, and then to the ninth thoracic segment, or to ninth intercostal nerve.

3. The blood pressure of patients suffering from acute infectious diseases should be watched carefully, and when a persistent drop from their normal of eight points or more, is noted, treatment should be instituted.

4. Manipulative procedures render the administration of stimulating drugs unnecessary.

5. The prognosis of cases of acute infectious fevers undergoing osteopathic care is good in any case, but may be made even better by a closer study of the blood pressure.

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Laboratory Findings for Early Diagnosis of Acute Diseases

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The progressive advancement of osteopathy in the past twenty years has been marked by increase in scientific osteopathy; and in no phase of the healing art has this advancement been more noticeable than in the increased employment of laboratory procedures and their development. Formerly it was often necessary to urge the importance of laboratory procedures in the routine examination of patients, but now the necessity of such aid in the study of disease is generally recognized, and with the greater use of these tests their true value is becoming more widely appreciated.

The efficiency of osteopathic therapy in acute diseases is dependent upon the diagnostic ability of the physician. In no phase of practice does the laboratory play a more prominent role than in the handling of acute diseases. I do not wish to detract from the importance of the history and physical findings, but it is in the acute work of general practice that the laboratory findings truly occupy the center of the stage.

Most of the tests used in general practice may be performed accurately by the physician in his own offices and with a minimum of equipment. With the development and perfection of board of health services in even the smaller centers there no longer exists the excuse for not making a routine Wassermann, for not culturing all throats that are at all suspicious, for not rendering all those routine services which the public has a right to expect.

However, there is an essential point on which each physician must be willing to frequently check himself if he is using a laboratory: ascertaining whether or not he is deriving the full benefit from this work either by correct interpretation or correlation with the clinical aspects of the cases studied. Many physicians today maintain excellent laboratory contacts and yet fail to derive their full benefits. It is not sufficient to know from a blood culture or Widal test that your patient has typhoid fever; you must also know how the blood stream of your patient is reacting to the presence of the bacillus.

Remembering that we must have a complete history and physical examination together with our laboratory tests to make an accurate diagnosis, still the laboratory findings would assume a greater point of importance if we should be able to call to your attention some specific cases where it is only possible from the laboratory to definitely state that your patient has such and such a disease. We mean by that, cases where it is necessary to make a quick and accurate diagnosis, as is true in most of the acute diseases. Such are the cases we will attempt to emphasize mainly in this paper. They are the cases in which it has been the custom to have something similar to this happen: The physician is called to see a child, or for that matter an adult, who has been feeling fatigued and is now beginning to develop the usual coryza symptoms and some fever. Perhaps the case has developed more rapidly and the temperature is more marked

but as yet there is no outstanding symptom or point in the history to decide the diagnosis. The patient is examined and nothing characteristic is found; the patient is treated and the family informed that a return visit on the following day will probably be necessary. When the physician sees the patient next day perhaps the symptoms have developed to the point of diagnostic value, but as likely as not, the doctor will leave again with an unsettled mind. The physician continues in the dark, the family continues to wonder. This is a description of the technic, so-called, of the three to ten day delayed diagnosis which was in vogue twenty years ago and which some of us have been guilty of following to the present.

It is my purpose to bring to your attention some of the results obtained by laboratory procedures, not those of a highly technical nature but those which are carried out every day in the modern clinical laboratory and have proven conclusively their worth as an aid to diagnosis. Many are well known to you already but a review may stimulate you to make use of the laboratory more extensively than has been your custom in the past.

Considering the secretions of the nose, throat and mouth the laboratory study is limited to the most important microorganisms found in health and disease. It is quite often as necessary to detect pathogenic organisms in normal individuals as to determine the causative factors in a disease process. Slides and cultures made from the buccal lining, the throat, or the nose reveal and establish the identity of several important diseases. Ranking first in this list is the bacillus of diphtheria and its recovery from the suspected throat clinches the diagnosis beyond argument, the clinical findings alone do not. The same is true of the demonstration of the presence of the streptococcus, the staphlococcus, and the pneumococcus in distinguishing their false membrane and throat symptoms from those of a diphtheritic infection. Furthermore, such smears from the buccal lining reveal important findings regarding the presence of the fusiform bacillus or Spirochete of Vincent, the causative organism of a disease which seemingly has been of peculiar virulence in the past few years.

Sputum examinations, especially repeated sputum examinations, reveal valuable information to the technician. A single negative specimen means nothing. Aside from considering the gross physical characteristics of the sputum which reveals findings especially as to pneumonia, tuberculosis, influenza, whooping cough, bronchitis, bronchiectasis, lung abscess, and other pulmonary diseases, the microscopic findings are most important. The presence of yellow elastic tissue under the microscope indicates an ulcerative condition as in pulmonary tuberculosis, lung abscess, gangrene of the lung, possible bronchiectasis. Similarly the presence of red blood cells is found in 60 to 80 per cent of all pulmonary tuberculosis, in pneumonia, abscess, gangrene, bronchiectasis, valvular heart disease, especially mitral stenosis, anuerism of the thoracic aorta, malignant fevers, and penetrating chest wounds. The bacteriology of the sputum reveals the bacillus of tuberculosis, the pneumococcus, the Bordet-Genue bacillus which is found in almost pure cultures during the first part of the paroxysmal stage of pertussis and is therefore a significant diagnostic finding.

The changes in the blood picture in disease offer a fertile field for laboratory diagnosis and although there are comparatively few diseases in which one can make the diagnosis from blood alone, there are several such diseases in which the recovery of the causative agent is the method of final diagnosis—I refer to malaria as an example. The majority of the alterations of the blood picture are secondary phenomena which in themselves associated with the clinical findings are indispensable in arriving at the correct diagnosis. The red cell count, the leukocytic count, and color index indicate for you the anemias, both primary and secondary, as well as the leukemias. The differential count on which I wish to spend a few moments is worthy of more detailed attention. I shall call your attention to a few diseases where the variations in the polynuclear leukocytes, the eosinophiles, the lymphocytes, and the transitional cells are distinctive of the disease processes causing these variations.

The count of the polynuclear leukocytes gives an excellent example of the value of the blood count. We have an increase in these cells in the pneumonias, and pneumococcic infections, in acute cerebrospinal meningitis, diphtheria, acute septic infections, erysipelas, acute rheumatic fever, scarlet fever, cholera, acute anterior poliomyelitis, and relapsing fever. The variations in the degree of increase in these cells is also important, as in smallpox, where the polymorphonuclears increase on the eighth day, then decline in number and increase again about the twelfth to fourteenth day. There are certain of the acute infections on the other hand which show no increase such as those just mentioned. Such diseases are typhoid and paratyphoid fever, measles and mumps, influenza and pertussis, as well as tuberculosis. In this connection I wish to call to your attention a laboratory procedure which, although not new, is finally gaining some merit in prognostic as well as diagnostic efforts. This procedure consists in the classification of the polymorphonuclear elements in groups corresponding to the number of nuclei in each cell: 1, 2, 3, 4 or 5. Normally there are in each 100 polymorphonuclear cells:

5 polymorphonuclear cells with 1 nucleus
35 polymorphonuclear cells with 2 nuclei
41 polymorphonuclear cells with 3 nuclei
17 polymorphonuclear cells with 4 nuclei
2 polymorphonuclear cells with 5 nuclei

When the number of polymorphonuclear cells with single or double nuclei shows a proportionate increase the prognosis is unfavorable. Reversely the prognosis is more favorable when the older cells with four or five nuclei show an increase. These changes are termed a "shift to the right" or "a shift to the left" respectively, and yield information of significance in all of the major infectious diseases.

NORMAL POLYMORPHONUCLEAR COUNT

Nuclei:	1	2	3	4	5
Number:	5	35	41	17	2

UNFAVORABLE PICTURE: "SHIFT TO LEFT"

Nuclei:	1	2	3	4	5
Number:	36	40	18	6	0

IMPROVED PICTURE: "SHIFT TO RIGHT"

Nuclei:	1	2	3	4	5
Number:	8	35	28	24	4

The eosinophiles are increased during and shortly after the paroxysm in bronchial asthma and hay fever as well as in other anaphylactic conditions, during the convalescence from many of the acute infections, at times during the course of scarlet fever, in certain of the skin infections, in animal parasitic infections, and in certain cases of colitis and proctitis. It will be noted that it does not offer the information that the polymorphonuclear count does.

A lymphocytosis occurs pathologically in the following: lymphoid luekemia, pertussis, in the secondary eruptive stage of syphilis, pulmonary tuberculosis, rickets, pernicious anemia, scurvy. It occurs also inconstantly in Addison's disease, diabetes mellitus, Banti's disease, and in severe septicemia. A diagnostic finding of some importance is a proportionate increase in lymphocytes in a total white count of 6,000 or less which always indicates a chronic focal infection.

The most important causes for the increase in the mononuclear cells, including the transitional cells, are typhoid, the afebrile stage of malaria, amebic dysentery, malta and Rocky Mountain spotted fever, pellegra, yaws and Hodgkin's disease.

Finally a leukopenia indicates one of the following: malaria typhoid, paratyphoid, influenza, measles, pernicious and aplastic anemia, extensive tuberculosis of the lymph glands, typhus fever, poisoning as from benzene, arsenic, etc., also overexposure to x-rays.

All of the foregoing is very important in acute practice, and to it I wish to add a word about the necessity of blood cultures. Such cultures are indicated in any fever of obscure origin and are here a very reliable diagnostic means. They should be employed whenever a case presents itself in which the temperature remains elevated for several days without apparent cause. To say that blood culture findings are positive in 85 per cent of the cases of typhoid and paratyphoid fever within the first ten to twelve days shows their value. Since pneumococcus septicemia is common during the course of lobar pneumonia the blood culture is important here also. In acute cerebrospinal meningitis the meningococcus may often be recovered from the blood before the definite symptoms of meningitis are present. Also, as a diagnostic measure in diagnosis of acute endocarditis, the blood culture reveals the streptococcus, the staphlococcus or whatever offending organism may be present. Sometimes, without the presence of a recognizable local lesion a septicemia would remain a source of worry if it were not for the ease in which a culture could be made. I might also emphasize the importance of repeated cultures in influenza, especially when complicated with pneumonia, also in acute articular rheumatism, and in chronic arthritis with expensive joint involvement where the offending organism is frequently a streptococcus. In such cases the blood culture aside from its diagnostic information is a definite basis for a correct prognosis.

Since the value of the blood culture in typhoid fever diagnosis has just been mentioned I wish to call attention to the Widal test, but only in so far as to mention for your review its limitations. A positive Widal occurs at a later stage than that in which the blood culture findings are positive, and is therefore of no diagnostic value in the early distinction of typhoid. The test is also of no value in those individuals who have been inoculated with typhoid vaccine.

No mention has been made of the importance of urinary examination thus far since most work of this kind is well understood and since the findings from a urinalysis alone are not diagnostic in many of the acute diseases. The results of most of the tests made in doing a urinalysis in connection with acute diseases indicate in the main the reaction of the system to the amount of toxin present and should find a necessary place in forming a prognosis. One point concerning the examination of urinary specimens, however, is frequently not emphasized as it should be. If you will remember that in some cases the typhoid bacillus can be recovered from the urine before the Widal test yields positive results, you will not overlook the necessity of a bacteriological study in many puzzling cases.

As stated previously, the utmost importance is attached to the early diagnosis of meningitis and kindred cerebrospinal infections. This diagnosis is often delayed due to the objections of many physicians to subjecting their patients to the discomforts and dangers of a spinal puncture. It is not my purpose to discuss the merits or lack of merits of these objections, but rather to remind you of the valuable information available from examination of the spinal fluid. This cerebrospinal fluid which is normally clear and transparent is found cloudy, turbid and greenish in acute meningitis, while in stained slides made from centrifuged specimens the meningococcus may easily be discovered. Tubercular meningitis, the presence of the pneumococcus, and the influenza bacillus may likewise be demonstrated. The presence of the staphlococcus and streptococcus pyogenes is usually observed secondarily to trauma of the head or phlebitis. Other laboratory findings from the spinal fluid lend themselves more to the diagnosis of more chronic diseases.

Among the most common of what may be termed "neglected laboratory procedures" is one that yields sufficient information to establish itself in a more important position; I refer to the fecal examinations. The gross study of the feces reveals the presence or absence of mucus; important information as to color, odor, consistency—all of which are of importance in differentiating diseases. The chemical, bacteriological, and microscopic examinations are naturally of more value than gross examinations. Cases of animal parasitic infection may simulate various of the acute infections clinically and be differentiated only through fecal examination. I refer to the presence of Dibothryocephalas latus in the intestinal tract where the blood picture and clinical findings are those of a primary pernicious anemia. In your most puzzling case it may be well to remember that a fecal examination has probably been omitted.

No attempt will be made in this paper to discuss the laboratory aspects of blood chemistry since

the application of these tests reveals little that could be used for early diagnosis in most of the acute diseases. Probably the only reason that that which is to follow here has been included rests in the fact that the main purpose of this discussion has been to cover those points which would aid especially in an early diagnosis of acute pathology. The employment of the ultraviolet light has usually been that of a therapeutic agent, however, use can be found for it in a limited field which may be included in laboratory diagnosis. I wish to call attention to the appearance of pigmented areas under ultraviolet light which are not visible on the skin surface by ordinary illumination. Work along this line was suggested by Drs. Wadsworth and Misenheimer in a report appearing in the *American Medical Journal* on a series of fourteen cases of measles. It was observed that the rash made its appearance on the skin at various times from thirty-three to seventy-six hours after it became visible under the ultraviolet light. It has been possible using the ultraviolet light, in an otherwise darkened room, to rule out several cases of suspected measles. Recently it was my experience to demonstrate the rash of chickenpox twenty-six hours before it became visible. This was possible in two separate cases in both of which the rash was sufficiently visible under ultraviolet radiation to distinguish it from other skin lesions. It is impossible as yet to draw definite conclusions from this immature work yet this may serve as a starting point. Reasoning along this type of work seems clearly to indicate that it may prove of some service as an aid in the early diagnosis and prompt isolation of the contagious, eruptive infections.

Many other laboratory procedures might be mentioned but sufficient have been taken up to stimulate a more thorough effort at routine laboratory diagnoses, especially as concern acute diseases. Much has been said and written concerning the efficiency of osteopathy in acute diseases, as well as concerning the lack of knowledge on the part of the public regarding results with osteopathy in such conditions. The proof of the claims for osteopathy and the remedy for the lack of public knowledge will be found in the routine application of laboratory findings to clinical conclusions which will soon result in a vast accumulation of undeniable evidence upon which a further advancement of scientific osteopathy may be made.

Osteopathic Basic Principles in Relation to Acute Disease Practice

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This discussion will be confined to one phase of acute practice, the acute infectious diseases. Do osteopathic procedures have a measurable value in affecting favorably the progress of the acute infectious diseases such as typhoid fever, lobar pneumonia, bronchopneumonia, influenza, scarlet fever, measles, cerebrospinal meningitis, anterior poliomyelitis, acute rheumatic fever and all the vast number of acute infectious diseases, the infectious agents of which are either known or unknown? Will osteopathic treatment and care modify the symptomatology so that incidental distress is lessened, the course of certain diseases shortened, the incidence of complications avoided or minimized and a more speedy and complete convalesence insured? Do osteopathic patients enjoy better health after a period of one, five ten or twenty years following a severe acute infectious disease than do patients who have had similiar acute infectious diseases and who have not had osteopathic care?

I have asked these three rather extended questions in order to briefly and readily bring the matter under discussion before us. Acute infectious diseases tend to be self limited in their course. The ordinary cold, due to a mixed infection, is an example. The course in this instance is somewhat variable as to severity and time. There may be no complications or there may be many, such as acute infection of the paranasal sinuses, infection of the middle ear, bronchitis, bronchopneumonia, endocarditis, nephritis, etc. The disease may run forty-eight hours or two or three weeks or longer, but there is a very definite tendency to recover, either with treatment or without treatment. Many cases of whooping cough or measles or mumps or acute infectious cold never have a doctor of any kind. They get sick, run a fairly definite course, and recover. I merely wish to emphasize the fact that there is a strong tendency for the acute infectious diseases to be self limiting. If this fact is true, what explanation may be given to account for this very remarkable tendency?

There are so many modifying factors to keep in mind in the consideration of this great subject. The scope of this paper does not allow us to go into all the interesting and valuable fields of discussion that present themselves as possibilities. The matter of why one individual runs a mild course of influenza without complications and another person runs a very severe course with many and perhaps fatal complications; the fact that some infections occur chiefly in childhood and others occur in adult life; that race, climate, sex, occupations, and living conditions are factors in etiology, all are matters of profound interest some of which can be explained and many may be noted without adequate explanation. We must of necessity circumscribe our consideration at this time to the answers and to some of the reasons for the answers to the three questions propounded at the beginning of this discussion.

It is of greatest importance that we appreciate a threefold factor in modification of acute infections, a careful study of which will explain, at least in large part, the variation in course and virulence of many of these diseases under discussion. First, the dosage of infection may be a factor; second, the virulence of the infectious organism is probably a larger and more important factor; and third, the susceptibility of the individual is probably the greatest and most potent factor in determining the degree of involvement in any given case. The next consideration to which we may direct our attention is the fact that the infection itself is a stimulus to the organs, tissues and cells of the body for the elaboration of defensive barricades to overcome such infection. This stimulus to various tissues afforded by the infecting organism and its toxin, is specific, direct, and in the vast majority of instances, is adequate to effectively activate these tissues and thus overcome the infection, to neutral-

ize the toxins of such invading organisms and to establish temporary or permanent immunity to that particular type of infection. The lymphatic tissues of the body probably are in the forefront of such reaction, as are also the spleen, the liver and certain of the endocrine glands; indeed it may well be surmised that most of the tissues of the body make an answer, greater or less, to such stimulation. The fundamental principle of osteopathic practice, stated nearly sixty years ago by Dr. A. T. Still and to which we adhere today, was essentially as follows: that "the body contains within itself all the vital forces and chemicals necessary to maintain health and to combat disease, provided the functions of these several tissues are not impaired or abolished by structural derangement."

I wish to stress one big profound thought, namely, that *structural normalization is the most potent therapeutic principle in the world today.* Any physician that can fully comprehend the great truths inherent in that statement and who has the requisite skill and understanding to apply them in practice, will be able to successfully meet the many and varied problems arising in practice in the field of acute infectious diseases.

To avoid undue prolixity, we will close this discussion by stating that the treatment of acute infectious diseases may be divided into two divisions: the general care, and the particularized osteopathic treatment.

1. *General Care.*—Rest in bed, good ventilation, free fluid intake, suitable diet, baths, topical applications, enemas and good nursing care.

2. *Manipulative Treatment.*—The correction of secondary or viscerosomatic lesions along the spine daily or several times a day, as the severity of the disease indicates. Particular attention to the normalization of spinal areas in association with organs of elimination, of the heart, of the spleen and of the liver. Careful, repeated, and insistent treatment of the cervical area for its effect on the nervous system, the fever, the respiration, the heart, etc. The continued normalization of viscerosomatic lesions associated with areas of principal involvement during convalesence. (These secondary contractions, contractures and impactions recur as long as there is existing pathology in the viscera, such as cloudy swelling and granular degeneration in the heart muscle, in the essential cells of the liver, in the kidney epithelium, tubular and glomerular, and in various other tissues. They act as maintaining causes of impaired functional capacity and lessened recuperative activity.)

Recovery is dependent upon the ability of the patient to react. Osteopathic treatment and care assists or makes possible such reaction. Normalization of spinal areas makes available to the patients ill with an acute infectious disease, all of their own inherent resources. With these considerations before us, the answer to each of the three questions propounded at the beginning of this discussion is affirmative.

Suggestions Are Wanted Now for the Program at the

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The Acute Abdominal Infections

GFORGE J. CONLEY, D.O.
Kansas City, Mo.

The acute abdominal infections present many problems both confusing, complicating, and of a source of worry to the general practitioner.

And here let me say the purpose of this appearance at this time before this section is with the hope that I may present some of these problems in a way that will be of benefit and assistance to the general practitioner. He is the one with whom I am directly concerned; the specialist has no part in this dissertation. The family physician is the first person to contact the vast majority of the acute infections and upon him falls the entire responsibility of safeguarding the life of the patient. Nature oftentimes places a time limit within which the physician may institute and carry out a line of treatment with comparative safety to the patient, but if he lacks acuity in diagnosis or initiative in action, or if he is the possessor of a sluggish mind, he may sin away his day of grace and needlessly expose his patient to extreme dangers which may result fatally.

A great many general practitioners are so situated geographically that friendly consultation is prohibitive and they must depend absolutely upon their own resources. The general average of competency of a profession is gauged by the proficiency expressed by the family physician, hence it should be the object of every convention, sectional, state or national, to provide a mental pabulum that will prove stimulating, nourishing and helpful to that great mass of its membership functioning as general practitioners.

It will be my object to stick close to the ground and present such cases and conditions that the average physician is most likely to contact and to call attention to diagnostic aids that will be available to him at the bedside, supplemented with a few simple laboratory tests that he should be both competent and prepared to make.

Acute Appendix.—First, most common, and one of the most dangerous of the acute belly infections is the acute appendix. It has been discussed by word of mouth and upon the written page more than any other one condition in the last twenty-five years and the average general physician continues to "foozle" it; to call it intestinal flu, acute gastritis, indigestion, colitis and whatnot, until nature is on the point of exacting the extreme penalty for such negligence. Then and only then the diagnosis is made and it may be perhaps to the discomfiture of the attending physician.

The simplest, easiest and quickest method of recognizing the acute appendix, and one within the ken of all, is the Murphy Sequence of Symptoms diagnostic of the acute appendix. It is as follows: general abdominal pain, nausea and vomiting, localizatoin of the pain, fever and leukocytosis. Remember, in this sequence subnormal temperature should have the same interpretation as fever, only the prognosis should be more grave and hypoleukocytosis should have the same significance as leukocytosis with the added gravity in prognosis. The pain is generally epigastric, or may center around the naval; rarely begins in the right iliac fossa. Should the pain manifest

first at McBurney's point and fail to conform to the Murphy sequence, doubt the responsibility of the appendix as the causative factor.

This is all the general man need know about the symptomatology of the acute appendix. He can rely upon it absolutely and it will not fail him.

The acute appendix is a surgical lesion and advice should be given accordingly. If no surgeon is available, then palliate. First, elevate head of bed by setting the legs on chairs; gastric lavage to be repeated when vomiting recurs; nothing per mouth, not even water, until temperature and pulse has been practically normal for twenty-four hours; proctoclysis, normal salt solution, container not over six inches above rectum, tube running free, two hours on and two hours off; moist heat to the belly and gentle spinal relaxation to the musculature of the entire spine, particularly the splanchnics, daily or oftener as might be indicated. The Miller Lymphatic Pump could be employed to advantage. Every general man should have a stomach tube and should know of its use; it is vastly more important and useful than the hypodermic.

Gall-bladder.—The next most common condition in the acute belly concerns the gall bladder. Practically all women who have borne children suffer from some degree of cholecystitis, complicated with gall stones in not a few. Other common predisposing causes are acute appendicitis or typhoid fever. Any case history showing some phase of indigestion revealing pregnancy, typhoid fever, or acute appendicitis, should draw the attention at once to the gall bladder as the causative factor. In any event, examine it first, as a precautionary measure.

The case history is usually that of a chronic type of indigestion, marked by exaccerbations concomitant with the spring and fall seasons, and having no particular reference to the ingestion of food. In the acute type of cholecystitis nausea and vomiting followed by pain is the rule; the pain and muscular rigidity centers under the right costal arch with radiations upward and backward around beneath the right scapula into the right shoulder; the characteristic phrenic neuralgia. In more rare instances the pain is referred to the left costal arch and left shoulder; chill, fever, acceleration of pulse and leukocytosis complete the picture. Jaundice may be present, if the inflammatory reaction involves the common duct, the edema occluding its lumen, in which event the jaundice follows the pain. If the fever manifests the high, acute angulations called the church steeple type, one may readily conclude that the center of the inflammation involves the neck of the gall bladder and cystic and common ducts. The temperature will be higher and the leukocyte count lower. In the event that the brunt of the infection is manifesting in the fundus of the gall bladder the temperature will be comparatively low, 100 to 101, and the white count high. Recurring chills suggest common duct infection.

The physical examination reveals the center of tenderness under the right costal arch with corresponding rigidity of the subcostal portion of the right rectus muscle. With the patient in the dorsal position, the knees drawn up, the doctor on the patient's right and facing his head, the left thumb is pushed gently under the right costal arch and the patient asked to exhale. As he does so, gently press the thumb firmly up under the arch and ask the patient to inhale, trying to force the thumb out. As the downward excursion of the diaphragm forces the fundus of the inflammed gall bladder against the opposition offered by the stationary thumb the inspiratory effort is inhibited.

One must always bear in mind that the gall bladder occasionally may occupy a site beneath McBurney's point, while the appendix at times may be subcostal.

In acute cholecystitis one invariably finds muscular contractions and extreme tenderness to the right of the 10th, 11th or 12th dorsal spine, also the 6th and 7th dorsal.

Perforation of Gastric or Duodenal Ulcer.—The next common disturbance that may inflict the belly and which may be simulated by either appendicitis or cholecystitis is the perforation of a gastric or duodenal ulcer. However, this catastrophe need never be definitely mistakened for an acute appendix or a gall bladder infection, unless perhaps in the latter, when it has reached the superlative manifestation of its inflammatory action and perforation has occurred. Then the general condition of the patient might readily be mistaken as due to a perforated ulcer. However, the rule of the perforation of gastric or duodenal ulcer is extremely sudden onset of pain in which the patient falls to the floor or on a bed with the outward semblance of collapse. The belly musculature exhibits marked contracture of unyielding rigidity, especially noticeable in its upper reaches. The patient lies motionless and refuses to move for fear of a recurrence or an exaccerbation of the excrutiating pain. The pulse and blood pressure however, contra-indicates collapse, for strange to relate, the former in the beginning of the attack maintains its normal rate and increases only as peritonitis develops. The blood pressure in the beginning shows no lowering. The general picture and attitude of the patient is one of extreme illness.

The history of the case reveals the presence of a stomach disturbance; an indigestion covering a variable period of time. This history is marked by pain coming on regularly after each meal, characterized by spring and fall exaccerbations and marked by periods of latency. These pains are not so significant from the standpoint of type or location but rather the fact of the regularity of their appearance and the means used to control them.

In the final catastrophe of perforation the question might arise as to the possibility of an hepatic or renal colic. These colics are characterized by their spasmodic tendencies and the patient is in a state of ceaseless, restless activity, changing positions, rolling from side to side in hope of finding a position to relieve the pain; whereas the pain of perforation is marked by the motionless attitude of the patient who resists movement or even jarring of the bed lest it produce an exaccerbation of the dreadful pain. This condition is surgical just as soon as such arrangements can be consummated. If the attending physician is unable to arrive at a comprehension of the causative pathology, immediate adequate consultation should be demanded. If then there is doubt as to the pathology, the aid of the exploratory incision should be invoked, for it is apparent at a glance that nature is so seriously handicapped that surgical relief is necessary to overcome it.

Pus Tubes and Pelvic Abscesses.—A very common belly complication that the general man meets. As a rule these are not so difficult to pick up and nature is not so exacting as to the time nor the manner of detection. The lower the location of the infection in the belly the easier it is on the patient and the more the advantage on the side of nature's defensive mechanism.

Patients with pyosalpingitis rarely are prostrated suddenly by the manifestation of the disease. The onset is inclined to be slow with the symptoms never of the unbearable type. The location of the habitat of the disease and the fact that the patient is not suddenly incapacitated favors the formation of a protective barrier of adhesions limiting the diseased condition to the pelvis. Should rupture of the tube ensue, the pus is restrained, and nothing more serious than a localized pelvic peritonitis results. The pain is low seated and is bilateral or unilateral depending whether both or one side is involved. The muscular rigidity likewise confines itself to the pelvic areas. The patient may have chill, nausea or vomiting, with the pain becoming progressively worse.

There is a history of a gonococcic infection, a miscarriage, an abortion or the effects of the misguided use of the curette following the last two mentioned conditions. More rarely the tubal infections may follow a vicious streptococcic infection of the throat or may be a sequela of the flu, and may manifest in innocent young girls nine to fourteen years of age. There is generally a leukocyte count ranging from 15,000 to 25,000.

The findings of the pelvic examination reveal the presence of massive adhesions in the broad ligament areas and behind the womb. These may be hard, irregular and so nodular as to suggest malignancy. The womb is immovably fixed as though it were set in mortar. Oftentimes the adhesions are so massive and extensive that they may be palpable through the anterior belly wall in spite of the localized muscular rigidity.

In the advent of rupture and the presence of pus in Douglas's culdesac the feel of the collection is suggestive of a cyst and the structures of the upper reaches of the vagina bulge forward around the womb. Rectal examination confirms the vaginal.

With these acute pelvic conditions it is generally best to await subsidence of the virulency of the condition before resorting to operative interference. This is accomplished by the use of the Fowler position and resorting to copious, hot, vaginal douches several times daily using gallons of water as hot as can be borne. Moist heat to the lower belly is comforting and tends to soothe.

Correction of spinal or pelvic lesions in these conditions is contra-indicated on account of the danger of rupturing a pus tube or breaking down some part of nature's protective barrier of adhesions which predispose to a general septic peritonitis. General muscular relaxation of the spine is always indicated and is beneficial.

There is a tendency for the inflammations caused by the milder organisms, B. coli, staphylococcus, etc., if rupture of the tube does not take place, to subside and the tube drain into the womb with subsidence of symptoms. The stricture of the tube at the uterine end is not permanent and may relax as the severity of the inflammation yields. This is not the rule, but may occur.

The gonorrheal pus tube is surgical. The stricture at the uterine end of the tube is permanent and tubal drainage via the womb is impossible, so removal of the offending structure offers the only prospect of a cure.

Tubal Pregnancy.—While not an infection, this is one of the fairly common abdominal catastrophies. It usually remains undetected until internal hemorrhage severely jeopardizes or terminates the patient's life. This condition marks any stage of the child bearing age but most generally occurs in the multipara after a period of several years of sterility. A period is missed. The womb is slightly enlarged; cervix softened; there is morning sickness and a persistent flow, which may be intermittent. There are pains in the inguinal area affected which are suggestive of dysmenorrhea and accompanied by muscular rigidity in the overlying muscles.

Vaginal examination should reveal a mass in one or the other or both broad ligament areas. Sometimes the enlarged tube may be palpated, but this is exceptional. Nature usually protects by walling off with adhesions. Should the tube have a high location or should it extend upward from the womb the broad ligament areas may be entirely negative and the diagnosis will have to be made after rupture has taken place. This is characterized by sudden, stabbing, lancinating pain with evidences of collapse. The pulse becomes progressively rapid and evidences of internal hemorrhage manifest by bright eyes, contracted pupils, mental alertness, tinnitus aurium, dyspnea (air hunger), nausea and vomiting, extreme thirst with dry skin and sphincters intact.

Even with severe internal hemorrhage the pelvic examination may be negative, although as a rule the presence of the fluid may be detected. If the perforation is small and nature can successfully protect with a supporting adhesion, the symptoms are less severe and marked by intermittency which may be misleading until the final act of the calamity, massive rupture occurs. Watchful waiting has no place in the treatment of this condition and palliation is useless. Surgery and it alone will suffice.

Intestinal Obstruction.—Must be mentioned for the reason that its mortality shows no decrease in the last thirty years. No attempt will be made to enter into a complete dissertation of this many-sided problem. I shall try to put it so that the physician at the bedside may recognize the type and advise accordingly.

Intestinal obstruction is characterized by absolute constipation and persistent vomiting. These two conditions always present sooner or later.

There are three types, two of nervous origin (adynamic and dynamic ileus), and the third, mechanical obstruction. Approximately 68% are adynamic, 2% dynamic (lead colic and tyrotoxicon poisoning), and 30% mechanical. As a rule, the adynamic and dynamic types yield to palliation, while the mechanical is surgical.

The adynamic type usually presents a history of surgical interference in the belly, gall stone or renal colic, septic peritonitis, acute exaccerbations of a Bright's disease, spinal injury, or irritation, rotation of a uterine or ovarian tumor on its pedicle, torsion of the spermatic cord or a manifestation of tabes.

The dynamic type presents a history of lead absorption or the ingestion of tainted cheese or milk products.

The mechanical types are legion, only a few of which will be mentioned viz., strangulation of hernias, cancerous growths, intussusceptions, volvulus, constricting bands of adhesions, large foreign bodies such as gall stones, etc.

If one treats all cases of intestinal obstruction by the same method regardless of pathology, i. e. by palliation or by surgery, then the palliative exponent will have a lower mortality than the surgical advocate, for approximately only 30% of these cases primarily are surgical. Accuracy in diagnosis and the judicious use of surgery early will markedly lower the mortality rate. The family physician must be responsible when he first contacts the patient. The differentiation of the two great types depends upon the presence or absence of borborygmus, those explosions due to the peristaltic wave trying to force past the obstruction. In the mechanical type of obstruction these are present, generally pronounced, with the maximum of intensity over the point of obstruction. They are absent in the adynamic type. The whole belly is dead. The dynamic type is similar to ptomaine poisoning, except that diarrhea is replaced with absolute constipation and the history is that of the ingestion of tainted food. Borborygmus is present.

The *acute pancreas* must be mentioned in closing, not on account of its rarity, but because it is not generally thought of in connection with the acute belly infections. It is the stranger to the general man. It usually gives a preceding history of indigestion in short obese people which may be suggestive of a chronic cholecystitis. The attack is most sudden in onset and the pain is the most excruciating and agonizing the human kind is called upon to bear. The patient falls where he is and lies immobile, fearful to move lest it precipitate an exaccerbation of the terrible pain. The face exhibits extreme illness—the worried anxious drawn look so characteristic; the belly muscles, especially the upper quadrants, are in a state of boardlike, inflexible rigidity which shows no signs of yielding to the examining fingers. He is in a state of collapse marked by an instantly rapid, weak pulse and low blood pressure. It is a true surgical shock. The skin of the face and abdomen presents a peculiar look; it is mottled with patches of leaden color which is pathognomonic. The catastrophe is so severe and the appearance of the patient so terrifying that the exploratory incision suggests itself even though the attending physician has no idea of the causative pathology; and that is the proper line of treatment.

Enough has been said to cover the more common abdominal infections and it is my hope that some little modicum of benefit will accrue from this presentation.

Business or professional leadership is never found among those who decry, impugn or ridicule.

Achievements cannot come through leaders that play the lone wolf. We must pool our interests and policies if we are to gain goals. We cannot hold up to scorn a single member, competitor or piece of honest work except to our own hurt. When we start on a devouring orgy we run into a vicious circle which soon or late begins to devour the devourer.

Constructive effort is the safer game to play because it works—because it's true sportsmanship.

Ileus

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The very early diagnosis of ileus or intestinal obstruction is especially important for the reason that there are two well defined types, one of which requires very early surgical treatment for relief and the other is never surgical unless the underlying cause demands surgical treatment. It is therefore not only necessary to diagnose obstructions early, but imperative that the type of obstruction be determined.

The two types are, *mechanical* and *paralytic*.

The causes of the *mechanical* type are as the name would indicate, anything which will by mechanical means, obstruct the lumen of the gut. *Hernia is the cause of more than one-half of all cases of mechanical obstruction at all ages.*

In infants and young children intussusception and volvulus are the next most important causes. These usually occur in the ileocecal region or at the sigmoid due to a long or a short mesentery. At this age the mesentery in these regions is especially apt to be long, allowing unusually free movement of the intestines. Active peristalsis, as occurs in diarrheas so often in young, healthy children, may cause either a volvulus or intussusception. The ileum may telescope through the ileocecal valve into the cecum. In this particular type diagnosis can often be made by barium enema; and the giving of the enema itself is good treatment as the intracolonic pressure tends to force the ileum back through the valve. Several years ago we had such a case which had been diagnosed previously three different times as appendicitis, but each time before the child could be operated the symptoms so definitely improved that the operation was postponed. When we were called on the case the onset very much simulated an appendicitis, but the fever and leukocytosis failed to appear, which made us question that diagnosis. By putting the child to bed and using very high enemata the intussusception was overcome and the patient recovered in a few hours. Two or three times subsequently such attacks occurred, and responded to the same treatment. As the child grew older and the mesentery became relatively shorter the attacks ceased. Intussusception and volvulus may occur in adults from excessive peristalsis due to an effort to expel a pedunculated tumor in the lumen of the gut or the mass resulting from an inverted diverticulum or hypertrophied lymphoid tissue. In intussusception the upper segment usually telescopes into the lower and the mesentery is soon badly damaged, cutting off the blood supply to a segment of bowel very early.

In *mid-life* adhesions are the second most common cause of mechanical obstruction. These will, of course, occur from any infection or injury which causes peritonitis. Of course, we have mechanical obstruction due to foreign bodies, such as gall stones which have sloughed from the fundus of the gall bladder into the bowel, fecaliths, ingested bodies and parasites.

In *old age*, the second most common cause of mechanical obstruction is cancer. This most often occurs in the colon. In fact, eighty-five per cent

of all cases of obstruction in the colon are cancer. In such cases, of course, the onset is usually preceded by symptoms of stenosis. The tumor can usually be palpated; the pain is less acute than in higher obstructions; there is great distention of the abdomen and late vomiting as is always the case in low obstructions.

The causes of the *paralytic* or dynamic type are most often from conditions which cause overstimulation of the sympathetic nervous system, which reflexly inhibits the musculature of the gut causing it to lose all its power of peristalsis. This overstimulation may be due to fracture, renal or hepatic colic, the twisting of a pedicle of an ovarian cyst, pneumonia, peritonitis, etc. When such causes are operating surgery is absolutely contraindicated for it only adds to the patient's dangers and nearly always results fatally. A small percentage of paralytic cases are the result of embolism and infraction of the mesenteric vessels. The mechanical type, of course, may become paralytic if there has been long standing overdistention or damage to the mesentery from volvulus or intussusception and the extreme toxemia. When the mechanical type, however, has reached this stage the case will be fatal regardless of the method of treatment employed. In experimental animals death occurs in ninety-six hours following occlusion of the circulation to a portion of the gut.

The *diagnosis* of intestinal obstruction and the determination of the type are usually not very difficult problems if a few outstanding symptoms are kept in mind. The pain is paroxysmal, colicky, occurs about the umbilicus and in the beginning is accompanied by practically no fever, leukocytosis, tenderness or rigidity. The higher the obstruction, the more severe the pain and the sooner the vomiting occurs and the later the distension. Stercoraceous vomiting is always a late symptom and practically all patients die if not relieved before this appears. Patients often may stool after the onset of the pain, once or twice. Shock is often present as well as subnormal temperature and usually a rapid pulse. Tenderness and rigidity develop late after peritonitis has begun. No barium should be given per mouth for the purpose of x-ray examination, but may be used as an enema. A survey picture with the patient in the upright position will usually show the enormously distended coils of the gut with various fluid levels and gas above the fluid in the different coils. Oftentimes the point of obstruction can be very definitely determined by this method. If mesenteric thrombosis has occurred, the pain is of a continuous boring character rather than paroxysmal and colicky. Renal and hepatic colic can usually be eliminated by the location and direction in which the pain radiates coupled with the usual symptoms of such conditions. In perforated ulcer the onset is a knife-like pain with no colic or remission; the abdomen is retracted with an extreme boardlike rigidity and fixed, and the vomiting is not repeated.

In ileus, the laboratory tests show a hypochloremia and alkalosis due to loss of chlorine, and there is an increased nonprotein nitrogen. These findings provide a very valuable hint as to treatment—which follows.

If the type of obstruction is mechanical we have symptoms due to the natural effort to force the obstruction out of the way. Violent borborygmus can often be heard across the room in the beginning. First the borborygmus is a whirring sound, later changing to more of a tinkling character. As the musculature of the gut becomes exhausted these sounds become less audible and finally disappear even to the point where they cannot be recognized by the stethoscope as the paralytic type is superimposed on the mechanical, at which stage death is a matter of but a few hours regardless of what is done.

In the paralytic type early (as well as at all other times) in place of the borborygmus no sounds or evidences of peristalsis are apparent. Listening over the abdomen with a stethoscope there is a "silence more eloquent than sound," an absolute absence of evidence of any activity whatever.

Treatment.—In intussusception or volvulus as low as the ileocecal valve the use of the enemata to increase the intracolonic pressure is justified before resorting to surgery; however, *in every type of mechanical obstruction it is extremely important that surgery be not unnecessarily delayed.* Someone has said "the longer the patient lives with mechanical obstruction before operation the sooner he dies after the operation." It is not the obstruction of the bowel per se which causes death, but after obstruction has persisted for sufficient length of time certain changes in blood chemistry occur and certain toxins form of which hystamin is one of the most important. Such chemical changes have already given the patient a lethal dose of poison and death will occur regardless of whether the obstruction is removed or not. Remember, the paralytic type may develop in time from the mechanical also, and such cases are hopeless. Let me urge you again that the responsibility of the life of the patient is upon you in these cases and you do not have more than a matter of a very few hours to diagnose the type of obstruction present and institute the proper treatment.

In the paralytic type due to inhibition from an overstimulated sympathetic nervous system, spinal or splanchnic anesthesia have recently been employed and apparently with excellent results. Theoretically, at least, this treatment should be effective, although I have as yet had no personal experience with it. High enemata of a stimulating character and pituitin have been employed with success in this type of ileus. Osteopathic manipulative treatment designed to equalize the flow of nerve force and quiet the stimulating effect of the irritating lesion and overcome or counteract its inhibitive effect on the bowel should always be employed. The technic must be worked out in each individual case according to the cause and symptoms presented.

There are always three indications for treatment, in addition to those we have discussed, which are positive and important in the treatment of ileus. The patient is always dehydrated by the emesis, the chlorides are reduced by the loss of hydrochloric acid, and the patient is also deprived of nourishment. These indications are met by the use of hypodermoclysis, using three per cent glucose, in

normal salt solution. This should be repeated, giving 1,000 to 1,500 c.c. b. i. d., or as much as will be absorbed. Patients with intestinal obstruction treated in this way, in which there is no damage to the blood supply to the bowel, will live for thirty days or more until they die of starvation. (If the blood supply is destroyed, the patient will live only four days). If water alone be given, the patient will live a shorter time than if given no fluid at all because the water will extract the sodium chloride from the tissues; it will also shorten the patient's life if given water by mouth on account of the loss of hydrochloric acid by vomiting, thus reducing chlorides. Glucose not only supplies nourishment, but tends to overcome the alkylosis and eliminate the waste products.

Time does not permit a detailed discussion of intestinal obstruction, but there is no acute ailment in which early diagnosis is more essential and in which the indications for treatment both surgical and nonsurgical are more definite. It therefore behooves anyone who is accepting the responsibility of an acute practice to be so thoroughly conversant with the diagnosis and treatment that no fatal mistakes will be made.

The Southwestern Osteopathic
Sanitarium and Hospital

Anterior Poliomyelitis

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Infantile paralysis is the most dreaded disease of childhood because its path is paved with crippled children. There are few deaths from this disease, but the unfortunate innocent child is usually permanently paralyzed and often deformed for the remainder of his life.

Anterior poliomyelitis, as this disease is scientifically named, is peculiar in that it attacks chiefly the anterior horn cells of the spinal cord from which the motor nerves have their origin. There is no interference of the nerves of sensation.

Much research work has been done in an effort to isolate the germ or to determine the virus of this disease, but up to the present time nothing dependable has been found. Research laboratories have also failed to produce any specific cure for this dread disease. This failure to produce a cure does not mean that there is no cure for this disease. Thousands of cases are cured each year. Strange as it may seem, every child that has been crippled because of this disease, is a living proof of the cure, because these children no longer are affected with the disease. The infection has been cured. However, they do suffer from the damage done to the delicate nerve centers of the spinal cord. This damage was caused during the acute inflammatory period.

THE SPONTANEOUS CURE

If then, we are to look for a cure, it would be well to learn just how these many thousands of cases were cured. The cure in these cases was due to what may well be termed—the "spontaneous" or natural cure. To say that Nature cures is not sufficient; let us endeavor to understand how she accomplishes her cures. In the first place, let us remember that during the acute stage there is congestion and inflammation of the anterior horn cells of the spinal cord. There exists an edematous or dropsical swelling of the affected area. The cells are swollen with fluids that are highly toxic and destructive to the nerve cells. If the nerve cells are to be saved, this pressure of toxic fluid must be relieved and overcome, neutralized so to speak. Fresh toxic-free fluids must be supplied to rebuild the cells which have been affected. How does nature accomplish this? This is the all important question. The one thing of which we are sure is, that it is done by some force from within the body itself. The key to the entire phenomenon can be stated in one word—*absorption.* The word drainage also explains the process. Before any fresh fluids can be carried to the diseased cells, the waste fluids must be carried away. Nature has provided for this function by making use of the mechanical movements of the thorax and abdomen during the natural process of breathing. By the mechanical movements of the respiratory act, positive and negative pressures are created alternatingly between the thorax and abdomen. It is by this force thus created that the lymph and venous blood is carried back to the heart, thus draining all the distant parts of waste material. This waste material from the infected cells of the cord contains the specific toxins and constitutes the toxic complex. The toxic complex is then drawn into the general circulation. There occurs what might well be termed an autovaccination of the patient's blood with toxins which were in the spinal cord. The toxic complex is then carried by the blood to other parts of the body (to the spleen, liver, bone marrow,etc.,) where the cells have a special affinity for the toxins; these cells are then aroused to specific reaction and produce the specific antibodies or antitoxin. These antibodies are produced in excess, some are retained by the cells and others are cast off.

These antibodies or antitoxins are then drained into the blood stream by the same respiratory movements as are the toxins. The toxins and antitoxins are thus brought together in the blood stream and a defensive reaction is the result. Reactions which occur in the blood are to be desired and are therapeutic in character, while reactions which occur in the cells may be destructive to the cells. The results of the therapeutic reactions in the blood are the neutralization of the toxins and the destruction of the invading bacteria. This, then, constitutes the "spontaneous cure." The fatal cases are those in which the toxins overwhelmed patients before sufficient time had elapsed for the necessary reactions to bring about the cure.

Sad indeed, is the fate of many so-called cured cases of infantile paralysis; for many are destined to be crippled for the remainder of their lives because during the active or acute stage certain cells of the spinal cord were injured and some destroyed. The paralysis which follows is in proportion to the injury or destruction of the cells of the spinal cord.

This description of the spontaneous cure is a brief explanation of nature's method of overcoming diseases which are caused by bacterial infection.

It is this wonderful power of nature that has kept the race from extinction. It has been the curative force from the very first breath of life—long before the corner drugstore came into vogue.

THE THORACIC PUMP A SPECIFIC CURE FOR ANTERIOR POLIOMYELITIS

As stated before, the key to the spontaneous cure is the absorption of toxins by the drainage of fluids from the spinal cord through the mechanical movements of breathing. Taking advantage of this principle we have devised what we have chosen to call the lymphatic pump. This lymphatic pump is a manipulative procedure in which the hands of the operator are placed upon the thorax of the patient just below the clavicles near the sternum, over the terminal points of the thoracic and lymphatic ducts.

A rhythmical motion of the thorax and abdomen is maintained by alternating pressure and release; as the thorax is depressed the ducts empty their fluids into the veins and when the pressure is released they again fill with fluids. These movements are similar to the natural movements of respiration except that they are increased both in force and in number. The force is just sufficient to overcome the resistance and the rate is regulated according to the condition of the patient.

By the movements of the thoracic pump, the circulation of the venous blood and lymph is greatly increased. The infected area is rapidly drained of its waste material and is supplied with fresh fluids to rebuild it. The toxic waste thus absorbed constitutes the toxic complex. The toxic complex is, therefore, rapidly forced into the general circulation. In this manner the blood stream is surcharged with the toxic complex. In other words, there is an intravenous inoculation or autovaccination of the patient with the toxins, which are already present in the body. The burden of cure is then forced upon the defensive mechanism of the body, which in turn determines specifically the toxins present, and produces specific antibodies directly against the antigen which is the toxic complex.

When the body defenses are aroused to specific reaction, all the cells which possess a special affinity for the absorbed antigen produce the substance (antibody) which fixes the antigen, holding a certain surcharge quantity and allowing the remainder to pass into the blood stream. There will be an excess of antibodies in the cells and also in the blood stream. Not only are the toxins absorbed rapidly, but also the antitoxins; these toxins and antitoxins are then brought together in the blood stream and a reaction is the result. Reactions which occur in the blood are to be desired and are therapeutic in character, while reactions which occur in the cells may be destructive to the cells.

Therefore have we therapeutic reactions of the blood stream which consist of neutralization of toxins, together with destruction of the bacteria in the body and the presence of excess antibodies in the blood stream and in the cells; this constitutes the specific immunization of the body, or, in other words, the specific cure.

SUMMARY

The advantages of the lymphatic pump treatment for infantile paralysis are:

(a) It is specific. The body makes its own specific bacterial diagnosis, as well as its own specific antibody defense. Therefore there is no need for laboratory diagnosis or laboratory prepared treatment.

(b) It is natural. No foreign substance is added to the body either in the form of drugs or animal serum. It is simply a concentration of Nature's method.

(c) It causes an early defense. The body defense is made effective early in the disease, before the toxins have accumulated in overwhelming quantities, and while the patient has sufficient strength to withstand the anaphylactic reactions.

(d) The treatment directly relieves the lymphatic and venous stasis and restores the circulation to the spinal cord thus preventing pressure, atrophy, and fatty degeneration.

(e) The treatment restores the nutritive equilibrium, and saves the cells of the cord by relieving them of toxins.

(f) The treatment causes a therapeutic reaction to occur in the blood stream by bringing the antibodies (antitoxins) and toxins together.

(g) The treatment aids in the elimination of solid and fluid waste through the kidneys and skin.

(h) The treatment causes more oxygen to be taken into the blood. The treatment, if properly given, does not require any exertion on the part of the patient and may be given regardless of the age or condition of the patient; there being one exception—no treatment should be given during the time the patient is undergoing a reaction; it would be superfluous, to say the least,—besides, the patient at this time is having the desired effect from the former treatment.

In conclusion, the treatment herein described is not merely a theory. It has been used by the author for over ten years and has been found to relieve the paralysis within thirty minutes in acute and subacute cases. One patient that was completely helpless for ten weeks showed decided improvement before the first treatment was concluded.

No spinal manipulation is used during the acute stage nor is there any manipulating of the paralyzed parts because the circulation can be maintained very effectively by means of the lymphatic pump, and no other manipulation is necessary.

Spinal treatment is instituted at the stage when there is no noticeable improvement during or just following a thoracic pump treatment. This failure to show a response to the drainage treatment when a response had previously been obtained, is an indication that the congestion and pressure have been relieved. Cases that are treated early can usually be cured with very little or no after paralysis. Cases treated late will be paralyzed just in proportion to the damage which has occurred to the cells of the cord during the period of inflammation. Cells which are damaged but not destroyed may often be improved, provided the circulation to and from those cells is maintained. The improvement in the paralyzed parts is more rapid during the first few months and is less noticeable after six months and even less at one year, but some results are obtained even after many years.

Sick Room Management In Acute Diseases

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At the onset every acute ailment should be regarded as potentially grave, and should be handled accordingly. When this attitude is not assumed by the physician and those caring for the patient, what to all appearances was a mild attack of influenza, la grippe, pneumonia, or what not, frequently takes on serious symptoms and sometimes terminates fatally.

By treating all acute manifestations as though they were serious in nature and should be overcome

as soon as possible, many such illnesses would be prevented from becoming serious and the loss of life and the economic loss to the nation each year would be greatly reduced.

There are certain general rules which should be followed in the handling of acute illnesses.

First of all let us consider the doctor for a moment. The individual who is ill, especially if he is apprehensive, as is the case in pneumonia, for example, feels that his life is in the hands of his physician. He looks forward to his visits, and he hangs upon and weighs his every word. Therefore, the doctor's attitude should be cheerful, reassuring. It should inspire confidence in the patient and his family and arouse determination to get well. It goes without saying that the doctor's general conversation counts for much in such cases. He shouldn't relate unpleasant facts about other patients in his care. If he must talk about anything but the patient himself, it should fall in light, pleasant generalities. It is amazing to what extent the patient remembers the doctor's remarks after he has left, and how he dissects and weighs them.

Where there is fever and an accelerated pulse, food is prohibited. In this regard there should be no compromise. This means milk and all milk products; it means anything in the way of food whether solid or liquid. If it turns out that the illness is of a mild nature, the recovery will be hastened by abstinence from food. Water should be taken freely, and the juices of the citrous fruits according to the doctor's instructions.

The patient should have a room that is cheerful, quiet, and clean. This implies sunshine unless there is some contraindication such as in measles, etc. Fresh air should be admitted in winter as well as summer. In winter use ventilators or a screen covered with muslin. The temperature of the room should never be lower than sixty or sixty-five degrees Fahrenheit, not even in the treatment of pneumonia. During osteopathic treatment it usually is wise to close the windows.

A single bed is preferred, and bed clothes that are light but warm. The bed springs should be strong, such as a box spring. It should not sag. If there is a pronounced sag in the spring, put extension boards from the dining room table under the mattress. Many a case of hypostatic pneumonia has developed due to a sagging spring and the head of the patient being propped up too high. This position creates a basin-like cavity in the posterior aspect of the lungs, which cavity does not drain properly; stasis follows and pneumonia frequently results.

The importance of body warmth should be realized. In all acute diseases the body vitality is lowered, which means that it is more susceptible to shock, and especially to cold. Even when the patient is burning with high fever, he shouldn't be allowed to throw off the covers and expose himself to cold air. The patient's body must be kept warm. For years we have followed the plan of putting either flannel or woolen night dresses on such patients, or of putting a sweater of good quality over a cotton night dress. The sweater should have sleeves and it should be fastened at the throat with a safety-pin. In pneumonia cases we always insist that the patient must wear a sweater. The use of the sweater in treating children is especially advisable, for they are bound to throw the covers off and expose the chest, shoulders and arms during sleep. A brief chill is enough to cause pneumonia in acute conditions. It is very embarrassing to find you have a pneumonic complication in a case that you considered well on the way to recovery. That should not and need not be.

Fever, as we know, is an effort on nature's part to burn up body poisons. This being the case, the use of the enema is highly advisable. The colon should be thoroughly flushed, especially in the beginning of all acute diseases. It matters not what else may be done, the enema is advisable. Even if laxatives have been taken and the bowels have moved freely, the enema washes away the residue and is good practice. A tablespoonful of bicarbonate of soda to each quart of water will be found of value; especially is this so if the patient has complained of burning sensation of the rectum and anus.

If the illness is of a nature to greatly weaken the patient, a physiological salt solution may be used as an enema. This is particularly valuable where there is reluctance on the part of the patient to take water and fruit juices, or where for any reason these are not tolerated well.

Osteopathic manipulations in acute cases should not be too long. The vigor used in treating depends entirely upon the nature of the illness and the condition of the patient. Accessibility, of course, is a factor. If the doctor cannot see his patient often, he will try to do all possible at each visit. He should be careful and not overdo the treatment. If the patient is wearing a sweater, it should not be removed during treatment.

We have said that each case should be handled from the beginning as though it were serious. If this is not done and the case proves to be serious, the patient will have used up energy that should have been conserved to the utmost. Some patients are proud; they do not want assistance to turn over in bed and to do other things. They must be taught the necessity of conserving their strength. Recovery will be more rapid.

When one is ill he should not be annoyed by company. Many people die each year because of the visitations of well-meaning friends. Even the family of the patient should not be allowed to annoy him. Reading, listening to the radio, and all such distractions should be forbidden.

The feet should always be kept warm. The patient with fever often has cold feet and does not know it. Keep a hot water bottle at the patient's feet. Have it wrapped in a bath towel or piece of blanket so he cannot burn his feet.

If a nurse is employed, she should do her part to maintain an attitude of cheerfulness. Some nurses think that they must entertain the patient with tales of terrible cases they have nursed, etc. This must not be permitted. The doctor should know his nurse.

On some points doctors differ. This is by way of introducing something we have to say regarding sweating acute cases. Where there is a skin so dry that it is harsh, fever from 102° up, and the patient restless, with not the slightest tendency after twenty-four to forty-eight hours to perspire, we usually sweat the patient. It is apparent the patient is surcharged with toxins which his body is trying to throw off. Give the patient an enema.

When this has been done prepare for the sweat. Place him between all wool blankets, the blanket being doubled at the foot of the bed. Put two or three more blankets over the patient and an eider-down comforter over them. All covers should be fastened with safety-pins at the foot of the bed so they cannot be pulled up. Place a hot water bottle, wrapped in a towel, at the patient's feet. If an electric pad is available, place it under the patient's back, with a piece of oilcloth over it to keep it from getting wet when the patient begins to perspire. The head should be wrapped in a turkish towel to protect it when the sweating is at its height. Tuck the blankets around the shoulders, the arms being underneath the blankets. In the case of children, fasten the blankets to the mattress, at the head of the bed, with large safety-pins. Turn the switch of the electric pad to medium until the patient begins to sweat, then turn it to low and leave it there for one to two hours. The patient should sweat vigorously for at least two hours. In the meantime, give copious draughts of cold water or hot lemonade (without sugar).

If an electric pad is not available, take two one-quart fruit jars, fill with hot water (be sure they do not leak), wrap each carefully in an old towel or piece of blanket in order to protect the patient from burns, place one at each side against the body. Leave the jars there for two hours.

After two hours of vigorous sweating the electric pad or the jars may be removed. An hour later it usually is safe to remove the top blanket. The bottle at the feet should not be removed.

The patient is still in a sweat and will be for some time, therefore he should not be uncovered; his arms must remain under cover. He should be impressed with the fact that the sweating is an effort to shorten the duration of the illness by forcing elimination through the skin. Exposure would be dangerous.

Once having begun this procedure in a pneumonia case, we give one or two sweats a day until the temperature is normal. There is no treatment that can compare with sweating and careful and thorough osteopathic manipulation in getting quick results in pneumonia. We invariably sweat our pneumonia cases, and cases of la grippe and common cold, with profound systemic reactions, which are slow in responding to treatment. In scarlet fever, diphtheria and measles if the patient is not sweated he at least should be kept warm enough to produce a moist condition of the skin. When you find the skin dry and harsh you know at once that your patient is not doing well. Take immediate steps to induce vigorous skin activity and the moment this is accomplished that same moment the physiological processes of recovery have been initiated.

During the sweating the patient must not be allowed to lie on the back all the time. He should be turned on the side and the bed clothing carefully tucked in around his back and shoulders. If allowed to remain on the back, hypostatic congestion of the lungs may result.

If the nurse on the case is fussy about the patient having his sponge bath at regular intervals, she should be instructed that a patient who has been sweated as outlined can not be exposed for any kind of a bath or for anything else.

Should the patient complain that the sweating process is not comfortable, inform him that you are trying to rid him of his disease in the shortest possible time; that his future physical welfare is of more importance than his immediate comfort.

In those acute diseases characterized by profuse discharges from the nose and throat, paper napkins, cheese cloth or pieces of old cotton should be used instead of handkerchiefs, and then burned. The teeth and mouth should be washed several times a day, even if food is not taken. Any of the standard mouth washes may be used. In this type of case there is intense activity of the nasal and postnasal mucous membranes. Disease germs are being propagated at a tremendous rate. Nothing can be introduced into the nasal tract to destroy these microorganisms, for the reason that the mucous membrane would also be destroyed or seriously injured. The nasal infection must be attacked in another manner. The use of a good oil is advised. "CMP" oil is admirable for the purpose. The formula is as follows: camphor 3 grains, menthol 3 grains, phenol 3 grains, liquid albolene 2 ounces. With a medicine dropper put six or eight drops of the oil into each nostril five or six times a day during the early stages of the disease. The oil inhibits propagation of the pathogenic bacteria by rendering the field more difficult of attack and by increasing the resistance of the tissues.

The use of aqueous nasal douches in nasal and postnasal infection is not good practice. There is the ever present possibility that the aqueous solution may carry the bacteria into the orifice of the eustachian tubes and that otitis media may be the result. If oil is used as suggested, there is much less likelihood of otitis media as a complication.

The nose of the patient should not be allowed to become sore. Use a good ointment such as Williams' ointment on the nose and in the anterior nares two or three times a day.

In this outline of sick room management in acute diseases there is little, if anything, original. Much more of value could be said on the subject. There is an axiom which is trite and sometimes true which runs: "We need not so much to be informed as to be reminded." We trust our audience will have found something of value in the way of reminders.

Fundamentals in Treatment

RILEY D. MOORE, D.O.
Washington, D. C.

1. Start rigorously, attacking condition in every way possible before patient is weakened by disease. Later you cannot. The first twenty-four hours may determine outcome.
2. Never feed while there is fever.
3. The rule of tne ancients "to heat the cold parts and cool the hot ones" still holds good.
4. No patient is too sore to treat if you fit your treatment to the patient.
5. Start treatment of every acute case with an enema, usually cool.
6. Study rhythmic treatment for relief of pain and soreness; also lymphatic pump (Miller), "blood-sucker" (Webster), and axillary treatment (Still).
7. Watch for and correct cold buttocks and ear disorders in respiratory diseases.
8. Learn to use the cold wet pack.

SEATTLE

AUG. 3 TO 8

BATHING BEACH ON LAKE WASHINGTON, SEATTLE.
Courtesy Seattle Chamber of Commerce. *See Page —*

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THE HEART DURING PNEUMONIA

The consideration, somewhat in detail, of the heart and its involvement in lobar pneumonia presents one of the most vital topics in this most serious of all acute infectious diseases. We will approach the subject from the standpoint of pathology, symptoms and physical findings.

Pathology.—The heart muscle is involved in practically every case of lobar pneumonia. Cloudy swelling and granular degeneration is the most common involvement. In more severe cases acute myocarditis may supervene with focal areas of necrosis. The toxemia of lobar pneumonia seems to possess a selective affinity for cardiac muscle and we may assume that in every case there is present a degree of cardiac muscle change q. v. (quantity varying). This heart muscle involvement accounts for the weakening of the heart's action, and further because of the involvement of the conduction apparatus (situated in the heart muscle) we may find various abnormalities of rhythm such as premature systole, auricular flutter, auricular fibrillation or some degree of heart block. Pericarditis is a much rarer complication and may be fibrinous, serofibrinous, or purulent. Endocarditis holds a position somewhere between myocardial involvement and pericarditis in incidence. It may be simple or malignant. Statistics show that endocarditis was present in about 10 per cent of fatal cases. While endocarditis, when it does occur, is usually simple, a large percentage of malignant or ulcerative endocarditis cases are the result of infections occurring during pneumonia.

Symptoms and Physical Findings.—One should carefully examine the heart at the beginning of pneumonia, note the rate, the rhythm and the volume of the radial pulse, and carefully observe the heart sounds. The pulmonic second sound early is accentuated, sharp and clear; as the disease progresses this sound becomes less distinct and blurred. This single symptom is of great prognostic importance, as the ability of the right heart muscle to meet the problem of increased pressure in the lesser circulation can be best evaluated through such observation. With increasing failure of the heart we find increase of cardiac dullness to the right of the sternum and increase of the heart rate. In children the heart rate may be high, one hundred fifty or one hundred sixty without dangerous import, but in adults, a rate persistently above one hundred twenty is of serious consideration. Many observers are of the opinion that a crossing of the systolic blood pressure, as estimated in m.m. of mercury, and the pulse rate is of bad import, indicating a failing heart. That is, as an example, if the systolic pressure has been maintained at one hundred forty and the pulse has been running at one hundred twenty, the indication as to the heart is good. Now if the systolic pressure drops to one hundred twenty or one hundred ten and the pulse goes up to one hundred thirty or one hundred forty, there is evidence in this finding of serious and grave cardiac failure. Any marked irregularity in the pulse of rate, rhythm, or volume is of serious import. S. Calvin Smith says that 10 per cent of all pneumonias have auricular fibrillation at some time during the course of the disease. Auricular fibrillation is always a serious symptom and oftentimes means impending death, as does the irregularity known as pulsus alternans. The heart may be considered as an acute toxic heart.

Heart failure in pneumonia is not due, probably, to the increased load thrown upon the right heart by the consolidation in the lung, but is due to the extreme toxic poison acting on the heart muscle and on the nerve centers in the central nervous system. When the crisis occurs the consolidation in the lung is not rapidly altered and yet the heart may drop in a few hours from one hundred thirty beats per minute to eighty beats per minute. It is the toxemia and not the mechanical load that is the most important factor. As the heart rate is increased the increase is accomplished at the expense of the long pause so that in any rapidly acting heart we find the long pause and the short pause somewhat equalized. In any condition of impending cardiac failure we may find that the long pause and the short pause have entirely equalized (embryocardia) sometimes nicknamed a "tick tock" heart. This finding as in pulsus alternans usually means an exhausted heart muscle that is making its last valiant effort to maintain circulation. Death in pneumonia is due usually to toxemia. The heart is an excellent criterion of the degree of such toxemia. Other symptoms such as extreme dyspnea and cyanosis give further evidence of circulatory failure.

ARTHUR D. BECKER.

SECTION ON ACUTE DISEASES

The section on acute disease functions continuously. During the past twelve months 157 consultation letters have been answered by the chairman. The profession in general is showing an increased activity in the treatment of acute cases; and the osteopathic family physician is increasing—especially in the smaller cities.

The acute disease section was well attended at the Philadelphia convention, and its program was packed full of the kind of osteopathy that is needed in the sick room. The speakers were men of wide experience, men who had tried and proved the methods of which they spoke. After listening to these lectures one felt again renewed conviction that osteopathy, properly applied, is sufficient for the treatment of acute diseases. It is unlawful to label any medicine with the word "cure." It is like

folly to deny that the cure of acute diseases is due to anything other than the natural defensive forces of the body. This is fundamental A. T. Still osteopathy, and was the subject of two very fine lectures.

Diagnosis was featured on the program as was the latest laboratory methods and bedside methods. The diagnosis of surgical cases was made plain and greatly simplified. Methods of treating at the bedside and proper methods of care of the patient were reviewed in detail. Scientific feeding of the sick and proper feeding to prevent certain diseases were covered in a worthwhile lecture. Lymphatic pump technic and its application to acute diseases was taught whenever time permitted. A demonstration of blood sugar reduction in a diabetic patient was made before the section. The results of the tests follow: Before manipulative treatment the blood sugar was 500 mgs. per 100 c. c. of blood; after treatment the test showed only 375 mgs. of sugar to 100 c. c. blood. In other words, the blood sugar was reduced 125 mgs. per 100 c. c. of blood as the result of a fifteen minute lymphatic pump treatment.

The chairman wishes to take this opportunity to thank each and every one who aided in making the acute disease section program such a success.

C. Earl Miller.

COLLEGE REGISTRATION

Registration in the colleges has been completed for the current semester. The osteopathic physicians of the country and the friends of osteopathy who have been responsible for supplying the recruits to the profession which make up the freshman classes in our colleges have a notable achievemen to their credit. The numbers of recruits are not unusually large. The average has been maintained in this regard, however, and we are greatly indebted for the diligent service which has made it possible for the colleges to maintain their numerical strength.

There is another aspect to the recruiting work which is distinctly forward looking. It is in the matter of the character of new students who have come into our colleges. After the matriculation credentials have been carefully examined for this year's new students it will be found that the high quality of the individuals in the freshman classes is such as to elicit great and just pride throughout the profession. No other institutions of higher learning in this country can point to a more carefully selected group of new students than these who have just entered the colleges of osteopathy. Apparently, each one has been selected because of particular fitness for the work ahead. They have a definite and abiding interest in the science of osteopathy and have come to the colleges with a clean objective well established. Ordinarily, colleges and universities are compelled to spend great effort in the first few months of the freshman year in providing the purposes and objectives for the college career. In fact, most institutions of higher learning are compelled to require that freshman students be assigned to definite courses in orientation. So thoroughly and skillfully has the work of student recruiting been done by osteopathic physicians and their friends that this problem has been solved for the colleges in the careful selection of the young men and women who have entered our schools at this time. Certainly, this thoughtful and intelligent work in the student campaign has relieved the college of a heavy burden and has assured a higher type of scholastic endeavor from the beginning of the course. It is just this kind of cooperation with unity of effort and purpose which has made possible the remarkable growth of osteopathy.

H. G. Swanson.

WHAT SAY YOU?

What better can any college do than use the articles that are read at our national convention and other gatherings, most of which are eventually printed in our journals for use in the classroom? These articles are up to date, scientific and come from practical men in the field.

Dr. McCole has emphasized this, suggesting that we try to make it even more emphatic by placing these articles in some special lineup for this purpose. Most of our senior and junior students are taking the magazines and The Journal regularly. It will add to their interest if the professors will call attention to these articles and use them in class work.

We are interested in knowing just how much call there is for osteopathic books. Many able men in our profession would put together in compact form their best ideas and experiences, both of which are invaluable to the young student and doctor. They hesitate because unsure of the reception the book will receive. Will the colleges use the book? Will the profession in the field buy the book? There is no use of tieing up the funds of the individual doctor or his association unless there is assurance of response.

What say you?

LIBRARY OF OSTEOPATHIC LITERATURE

From the Bureau of Professional Development we have the following reaction: "We are planning to line up an 'Osteopathic Digest.' This will be comprised of what an unnamed committee thinks to be the best osteopathic writings of the year, and will be published in book form by one of the leading publishing houses of the country.

We want to get before the profession and anyone that is interested, literature that is outstanding and will be a credit to the osteopathic profession. We have in mind something along the line of the Mayo Clinics presented each year to the profession."

Another partial or immediate solution which has been working out fairly well with the upper classmen of our colleges for some years is that 75 to 100 per cent of these classes subscribe to The Journal, Forum and Osteopathic Magazine. Whatever else we do, such a digest of articles should be forthcoming.

A Plan to Establish This Library

Osteopathic articles appearing in current or in past issues of our journals are to be selected by a committee and issued in reprint form.

Copies of these osteopathic articles are to be sent to each college, so that each student will have a copy.

The Bureau of Professional Development to have entire authority to select articles to be issued in reprint. This committee to have authority to have these articles reprinted and distributed.

Osteopathic articles issued in this reprint form to be put out each month.

Each student and teacher in all colleges to have copies free of charge.

The members of the profession to be solicited for subscriptions to this Library of Osteopathic Literature at a charge to be decided upon. The clerical work to be handled by the A.O.A. and extra copies of the reprints to be made and kept in the Central office, so that in the future students or subscribers can get back numbers to fill out their files.

It is not the duty of the committee to publish or assist in the publishing of journals, magazines or books. It is not the duty of the committee to secure articles for publication in our journals. It is the duty of the committee to select articles, published in our journals, currently or in the past, and issue them in reprint form.

It is the intent to build up, from month to month, over several years, a library of osteopathic articles, especially designed for students, teachers and all osteopathic physicians who wish to read and study osteopathy.

The reprints to be on paper punched at the side for filing in loose leaf binders. If possible, some margin space to be provided for notes.

Articles to be headed and have frequent subheads over paragraphs so that referring to them and indexing will be easy.

Information to be supplied as to where loose leaf binders can be purchased. Students to be urged to secure these binders so that their files will be kept intact. As time goes on, full files will be of considerable value.

The aim of the plan is to stimulate the writing of osteopathic articles and osteopathic research, especially of a clinical nature. It is not the object to reprint much material of deeply technical research subjects; although they may be included.

It is the object of the plan to have reprinted articles of value to practitioners and students in their endeavor to become osteopathic physicians, and also to stimulate research and thought.

Authors of articles selected to be given due credit.

A design including something like a crest or monogram to be selected for the title page of the reprints. This to be used as an honor to the author and to stimulate research and osteopathic writing.

Should the committee decide to do so, certificates of honorable mention bearing this design could be given authors.

The committee to have the privilege of conferring with the author of the article being considered for reprinting, as to changes or advisable additions which might make the article better suited for the Library of Osteopathic Literature.

If any writer of an article wishes to have the committee read his manuscript before he submits it for publication, the committee should give the author the benefit of its advice.

After this plan has been in operation a few years, osteopathic material will have been collected in excellent form for reference by anyone who wishes to get out osteopathic books—such as the "Osteopathic Digest" suggested by Dr. Robuck. Students, both graduate and undergraduate, teachers, and research workers will find a mine of interest and information. Osteopathic books should follow naturally and with real osteopathic strength.

This plan is the first step and the necessary step in producing real osteopathic books and textbooks. It is a simple, workable plan. It is a plan the Bureau of Professional Development can handle with ease and efficiency. It is a plan which will immediately begin to supply the demand for osteopathy in our schools. It will meet at once the call of our great profession for more osteopathy. It will not take several years to work out. It is a plan calling for the minimum of expense; it calls for no great outlay in publishing books with the attendant risk of not being liked by the profession and successfully sold. It lays a real foundation for osteopathic writing and teaching, study and thought among our students and teachers.

It is likely that editors of our journals will be anxious to aid in this work.

It is likely that colleges could be induced to print and issue articles by their teachers or students, under the committee's direction and authority.

It is likely that school classes, clubs and fraternities could be interested in helping the Library of Osteopathic Literature by printing and distributing research articles, using the title page and design with the permission of the committee.

The plan will save for osteopathy many fine osteopathic articles, ideas and methods that are now lost. For example, Spencer's "Shoulder Treatment" has been published twice. How many osteopaths know the treatment? Try to find the article. Can you find Lamar Tuttle's "Upper Dorsal Treatment for Heart Trouble"? Then there is LeClere's questionnaire on "The Pop" and the discussion following; also, the article "Rest to Gain Adjustment."

For example, again, three articles just published are already practically lost to students in school and out. I refer to Guy's "Vertebral Mechanics," McConnell's "The Trained Tactual Sense," and Castlio's "Muscle Contraction."

Someone may say that getting out reprints is a duplication. Well, what if it is? To repeat and repeat again is a rule of good teaching.

GEORGE M. MCCOLE.

MORE THAN HALF ALREADY ACHIEVED

They said it was a lean year and that we could not get a large number of students into our college this year. Latest reports show that we have more than 500 new students in our colleges starting this fall term. One of the schools has 161 in the freshman class, another 144, still another 96 in the freshman class and 62 in the pre-freshman.

In keeping with suggestions on the front page of the November FORUM shall we work, coöperate toward filling up to the full our January classes.

PRACTICE IN WASHINGTON

It has become necessary that the Washington Osteopathic Association acquaint you with the true facts about the basic science examinations in our state. This is necessary because there has been an incessant propaganda against the principle of the basic science law which has led many to believe that it is a suicidal attempt to pass our basic science examinations. This is not the case, and we believe that anyone who possesses the training and knowledge required for a diploma from any of our colleges should have very little trouble getting a Washington license.

Figures have been presented in some of our publications, from apparently reliable sources which have needed interpretation before they give the true state of affairs in Washington. The impression has been created that it is difficult to pass our Basic Science Board and that osteopaths are discriminated against. This, as far as we who are on the ground can discover, is not true. Osteopaths are not discriminated against by the board and the examinations are not unfair or exceedingly difficult. Only four have failed the Basic Science Board. Of these one failed because he plugged on organic instead of inorganic chemistry but he passed easily the second time. Two others failed on the last examination but they are so confident of getting through the next examination that they are laying plans for practice in Washington now. That leaves one permanent failure in three years. In our opinion it will not be found more difficult to secure a license in Washington than in most of the other states of the Union. People fail occasionally in any state.

Therefore, we invite you to come to Washington to live and practice. Washington presents excellent opportunities both for play and work. Come out and visit us next summer and attend the National convention in Seattle. It will be a wonderful inspiration combined with a great vacation.

Why not come in time to take the Washington Board?

CLARENCE B. UTTERBACK

Public Relations Committee

CHESTER D. SWOPE, Chairman
Washington

THE COMMITTEE ON THE COST OF MEDICAL CARE

A certain committee on the cost of medical care, an inquisitorial body with headquarters in the City of Washington, has recently begun a survey of osteopathic physicians in Vermont; the first state inquiry in a nation-wide campaign. Facts on the origin of that committee, its purposes and procedure, make profitable reading and deserve a wider circulation.

The following data is taken from the committee's publications; but the appended comment is ours.

In the foreword to the first publication issued by the committee on the cost of medical care, Dr. Ray Lyman Wilbur, Secretary of the Interior, and chairman of the committee, says the committee "has been created to study a problem which, according to the secretary of the American Medical Association, is the one great outstanding question before the medical profession today. This, says Secretary Olin West, is 'the delivery of adequate, scientific medical service to all the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life.'"

Of the forty-five members comprising the committee, twenty-three hold the degree Doctor of Medicine. In describing the personnel of the committee, Dr. Wilbur further relates: "It comprises fifteen private practitioners of medicine, both general practitioners and specialists—men who have achieved distinction in their chosen fields and who have been active in the work of the American Medical Association and its constituent societies; six representatives of the field of public health, including an officer of the United States Public Health Service, a state commissioner of health and a public health nurse; eight representatives of various institutions and organizations; five eminent economists, all experienced in research work; and eleven representatives of the general public." And further: "The committee's work is assisted financially not only by the medical profession, but by several of the foundations interested in the advancement of knowledge and the improvement of the people's health. . . . The American Medical Association is planning to make one or more important studies at its own expense. It is hoped that the Metropolitan Life Insurance Company and other agencies will coöperate in carrying out certain important phases of the work."

As to the origin of the Committee, "problems regarding the economics of medicine were discussed on several occasions in 1925 and 1926 by a few physicians, sanitarians and economists; and on April 1, 1926, there was held in Washington, an informal conference attended by fourteen persons in these fields. At the close of this conference, a committee of five was appointed to formulate a tentative series of studies concerning the economic aspects of medical service and to develop plans for the creation of a committee to be responsible for their conduct. . . . The committee of five met several times, formulated a tentative list of studies, communicated with a considerable number of physicians, sanitarians, and economists to ascertain their opinions regarding the proposed plans, and arranged a conference May 17, 1927, in Washington, at the time of the annual meeting of the American Medical Association. This conference was attended by approximately sixty persons representing the various interested fields, and it resulted in the creation of The Committee on the Cost of Medical Care. . . . The primary purpose of the committee is to formulate a comprehensive series of studies on the economic aspects of medical service and to execute these studies with the aid of various interested research organizations. . . . . With the expectation that a sufficient volume of factual data may be procured within a period of five years, a five year program of studies has been decided upon. . . . The committee's actual program consists of the three following groups of studies: (1) Preliminary surveys of data showing the incidence of disease and disability requiring medical services and of generally existing facilities for dealing with them; (2) Studies on the cost to the family of medical services and the return accruing to the physician and other agents furnishing such service; (3) Analysis of specially organized facilities for medical care now serving particular groups of the population.

Under these three general heads just noted the committee has instituted the following program of studies:

"1. The diseases and conditions responsible for human disability and inefficiency. A special committee has been appointed to supervise this study. It is being conducted by the Statistical Office of the United States Public Health Service.

"2. The prevalence of certain disorders which appear to be among the most serious causes of disability and inefficiency. Field studies, questionnaires and existing data may be utilized.

"3. The proportion of persons, both adults and school children, not disabled, who are in need of medical service. . . . This study requires field work. The proportion of adults in need of medical service is to be covered, at least in part, by a study now being planned by the Statistical Office of the United States Public Health Service.

"4. Existing facilities for the treatment and prevention of disease and defectiveness—a statistical study. . . . The use of questionnaires and of reports of statistical studies previously conducted by the American Medical Association and other agencies will be required.

"5. Surveys of the medical services of a large city, of a small city, and of a rural community. . . . Special attention should be given to various irregular practitioners, such as osteopaths. . . . That part of the study to be conducted in rural communities will be made with the aid of the Agricultural Experiment Stations of various states and the Advisory Committee on Social and Economic Research in Agriculture of the Social Science Research Council.

"6. The cost of sickness, during a twelve months' period among various representative population groups, including the incidence of sickness. The study will reveal the number of cases of sickness treated by cultists, the number prescribed for by druggists, and the number treated at home or not treated at all. A physician in Philadelphia questioned his private patients for a period of four years regarding their experience with cults and found that 34 per cent of them had patronized one or more irregular practitioners within three months of the time they called him. It is hardly likely that the results of this investigation represent conditions throughout the country; but no one knows what proportion of sick people are attended by osteopaths, chiropractors, Christian Scientists and other cultists. The facts might be surprising. It is time that they were made available. . . . That part of the study to be conducted in urban communities is to be made by the Metropolitan Life Insurance Company. That part to be conducted in rural communities will be made with the aid of the Agricultural Experiment Stations of various states and the Bureau of Agricultural Economics of the Department of Agriculture at Washington.

"7. The influence of specialization on the cost of medical service. . . . It is obviously important to ascertain what percentage of cases now being treated require the service of specialists, also what percentage of cases not being treated. The first question might be answered by a study of hospital and clinic records, and the last question be dealt with in connection with study 3.

"8. The cost of adequate medical service for a family during a twelve months' period. . . . The cooperation of 100 or more families might be obtained, who could afford to pay reasonable prices for adequate service. It would then be necessary to secure their consent to employ all the different types of service considered to be adequate and keep an account of all expenses for a year.

"9. Capital investment and income in private practice. . . . The American Medical Association will conduct this study in so far as it relates to physicians.

"10. Capital investment in hospitals and clinics. . . . The main study should be made through the utilization of questionnaires and existing reports, supplemented by intensive field study.

"11. Organized medical service in industry and in universities. . . . Such a study should shed much needed

light on the practical possibilities of organized medical service, especially as some evaluation of quality and of results could accompany the studies of scope and cost. Existing reports, supplemented by questionnaires and field work, will be utilized.

"12. Pay clinics and group clinics. . . . . This study may be made through the use of questionnaires and field work.

"13. Recent developments in services rendered to persons not indigent by state, municipal, and county hospitals. . . . This is a questionnaire study.

"14. Visiting nurse societies. . . . Field work and the questionnaire will be required.

"15. School health service. . . The problem of cost and the subject of compensation paid may be dealt with by special studies or may be handled with 'later investigations of municipal health department practice and studies of rural health work. . . . '

"16. The extent of private medical service on a yearly basis. . . . The questionnaire method and field work may both be required in conducting this study.

"17. Existing types of health insurance in the United States. The scope and cost of protection provided by life insurance companies, mutual benefit associations, fraternal orders and labor unions should be dealt with in this study.

"18. Hospital service for patients of moderate means."

The above subjects comprised the initial of studies to be pursued by the committee, which list was adopted February 13, 1928; however, it was deemed necessary to add the following studies to the list between that date and July 1, 1929. In the publications examined these later subjects are merely announced by name without comment on their method of procedure.

"5a. Irregular types of medical practice.

"5b. The service of pharmacy.

"5c. The organization of medicine from a functional point of view.

"6a. The cost of sickness, during a twelve months' period, among policyholders of the Metropolitan Life Insurance Company, including the incidence of sickness

"6b. The cost of living in the United States, including detailed information regarding expenditures for medical services.

"9a. Capital investment and income among dentists in private practice.

"10a. The relation between charges made to patients in hospitals and the actual cost of their care.

"10b. Bases for financial adjustments among hospital patients.

11a. Organized medical service in the United States Army."

Studies 1 to 5c are grouped under the first of the three general headings; studies 6 to 10b are grouped under the second heading; and studies 11 to 18 are grouped under the third heading.

A preliminary survey pursuant to study number one, entitled "The Extent of Illness and of Physical and Mental Defects Prevailing in the United States—A compilation of Existing Materials," known as Publication No. 2, was published under date of November, 1929. Government resources represent half the table of references, the remainder being divided between private correspondence, technical papers and magazine articles, and the *Journal of the American Medical Association.*

Publication No. 3, pursuant to study four, entitled "A survey of Statistical Data on Medical Facilities in the United States—A Compilation of Existing Material," is dated November, 1929. The introductory note states: "It makes available in a single publication certain basic facts about the medical facilities of the United States, necessary for an understanding of the further work of the Committee on the Cost of Medical Care. No effort has been made to show how these facilities operate. The further researches of the committee will provide, among other results, the detailed information necessary for a well-rounded and complete description of the activities of medical practitioners and institutions." The summary takes occasion to mention that "The present review raises several questions which cannot now be answered fully and satisfactorily. Some of these follow: Are present medical facilities in the United States adequate, if not, how extensive, specifically, is the inadequacy? Just why have certain types of practitioners others than regularly licensed physicians and dentists become so extensive in this country, and should any effort be made to reduce them? . . . These questions must eventually be answered." Preceding the reference notes appears the following tribute: "The writer has received cordial cooperation from the various medical organizations. Grateful acknowledgement is made to the American Medical Association for its assistance (here specific mention is made of certain of the personnel of that association). The National Health Council, its president and its members, have been generous with their information and advice. Thanks are also due to officials of the American College of Surgeons, the American Dental Association, the American Hospital Association and the Modern Hospital Year Book." The reference table is largely a listing of material derived from the American Medical Association, its adjuncts and constituent parts. Reference is, however, made to the 1928 Year Book and Directory of the American Osteopathic Association for the purpose of computing the number and distribution of osteopaths. Under a paragraph, entitled "Certain Legal Aspects of Chiropractic and Osteopathy" in the appendix, the writer says: "To afford some idea of the control exercised over chiropractors, osteopaths and Christian Science practitioners, a few facts are presented." At this point a footnote is interposed to advise that this information has been "adapted from data supplied by W. C. Woodward, Executive Secretary, Bureau of Legal Medicine and Legislation, the American Medical Association." Continuing the writer states: "Laws regulating the practice of osteopathy are difficult to summarize, because of the practically uniform absence in such laws of adequate definitions of what an osteopath is and what he is allowed to do."

OUR COMMENT

Endowed by philanthropy and imbued with ideals and aspirations of the noblest to conceive, an organization so consecrated and so committed, should command the respect and cooperation of every member of society. It is, therefore, with some trepidation, but in direct answer to their challenge, that we are compelled to take issue with certain trends in its activity.

Osteopathy is dubbed a "cult" only on one authority. That authority possesses a numerical control of the Committee. Small wonder then that competitive schools of medicine are so referred to, and that the questions are so portentiously propounded, Where did they come from? and What is to be done about them? It is significant that the spotlight of retrospection is to be turned upon themselves to discover if by any possibility some deficiency of their own might have given rise to a public thirst for something better than the ordained therapy.

Osteopathy invites investigation. Why is the American Medical Association to conduct Study number nine "in so far as it relates to physicians"? Why was the information on "certain legal aspects of osteopathy" adapted from data furnished by the Bureau of Legal Medicine and Legislation of the American Medical Association? It is to be the privilege of that association to furnish material calculated to destroy the "cults", and at the same time be permitted to write its own ticket for "physicians"? Can the Committee, granting it has for chairman a high public official and is permitted free use of governmental functionaries thereby lending color of official sanction to its procedure and recommendations, command approval of a policy which arraigns before it as prosecutor, judge and jury, an honorable profession denied impartial hearing and devoid of representation? People may be gullible for a while; but in the end, the public is eminently fair.

Every one is entitled to his choice in medicine, and it ill befits a committee delivered into the hands of a single school of medicine to set itself up as preceptor of the nation's choice.

FREE WANT ADS

Anyone seeking an associate, assistant, interne, nurse, laboratory tehnician, office secretary or other help will be given a free insertion in the December JOURNAL or FORUM (not both). The same opportunity is open to those seeking such openings. Copy must be limited to three lines (about 20 words) and be sent in promptly. Ads should be keyed. Replies will be forwarded promptly.

TRANSPORTATION COMMITTEE

J. M. FRASER, General Chairman
626 Davis Street, Evanston, Ill.

"ON TO SEATTLE"

The utmost care in the consideration of routes by the transportation committee to the convention of the American Osteopathic Association, Seattle, Washington, August 3-8, 1931, has resulted in the selection of the Great Northern Railway in conjunction with the Chicago, Burlington and Quincy Railway as the official route.

Definite plans are being completed for the operating of the American Osteopathic Special train from Chicago over the Burlington Route to St. Paul and Minneapolis, thence via the Great Northern to Seattle with additional through pullmans from St. Louis, Kansas City, Omaha and Denver to be attached to the special train en route. The special train will leave Chicago the night of July 29.

The schedule of the special train is being arranged so as to afford those making the journey an opportunity to see the most scenic parts of "Northwest Adventureland" in daylight.

Special sightseeing tours are planned in the Twin Cities and Glacier National Park and an opportunity to view from the car window the majestic banks of the "Father of Waters," the Mississippi river, a delightful part of the ten thousand lake region of Minnesota, the grain fields and ranging prairies of North Dakota and Montana, the great northern Rockies at Glacier National Park, the Kootenai river canyon, the Wenatchee valley, the new eight mile Cascade tunnel and the Cascade mountain range, thence along the coast of Puget sound to Seattle.

In subsequent issues of THE JOURNAL there will be published complete details of our sojourn through scenic "Northwest Adventureland." We invite you to read them and become familiar with the attractiveness of the trip so that you may arrange your plans to join others of the profession on this journey to our thirty-fifth annual convention.

TRANSPORTATION COMMITTEE

Utah, Nevada, Arizona, Oregon, Washington, California—Dr. R. Lyda, 608 Shafer Bldg., Seattle, Washington.

Canada—Toronto, Ont.—Dr. H. J. Pocock, 401 C. P. R. Bldg.; Quebec, Montreal—Dr. Harryette Evans, 616 Medical Arts Bldg.; Winnipeg—Dr. F. H. Deeks, 726 Sommerset Block.

Eastern Osteopathic Association—Maryland, Delaware, Pennsylvania, New Jersey, New York—Dr. W. B. Underwood, Madison Bldg., Montclair, New Jersey.

Middle Atlantic—North Carolina, Virginia, District of Columbia—Dr. L. C. McCoy, 308 Bankers Trust Bldg., Norfolk, Va.

New England Osteopathic Association—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut—Dr. A. H. Gleason, 701 Park Bldg., Worcester, Mass.

Ohio—Dr. H. M. Dill, 325 Second St., Dayton.

Michigan—Dr. M. Herzfeld, 410 Fine Arts Bldg., Detroit.

North Dakota—Dr. H. S. Hanson, Pioneer Life Bldg., Fargo.

South Dakota—Dr. Jennie W. Ferguson, Redfield.

Iowa—Dr. H. J. Marshall, 401 Liberty Bldg., Des Moines.

Minnesota—Dr. A. E. Allen, Metropolitan Bldg., Minneapolis.

Arkansas—Dr. D. M. Lewis, 921 New Donaghey Bldg., Little Rock.

Mississippi—Dr. R. K. Haley, 516 Mizza Word Bldg., Meridian.

Louisiana—Dr. E. L. Bueler, 709 American Bank Bldg., New Orleans.

Wisconsin—Dr. L. B. Harned, 702 Tenney Bldg., Madison.

Nebraska—Dr. H. L. Magoun, 1705½ Broadway, Scottsbuff.

Kansas—Dr. B. L. Gleason, Larned.

Missouri—Dr. S. H. Kjerner, 709 Waldheim Bldg., Kansas City.

Texas—Dr. S. L. Scothorn, 1027 Santa Fe Bldg., Dallas.

Oklahoma—Dr. C. P. Harth, 512 Palace Bldg., Tulsa.

New Mexico—Dr. M. S. Skeels, K. of P. Bldg., Albuquerque.

Colorado—Dr. C. L. Draper, 320 Empire Bldg., Denver.

Wyoming—Dr. G. A. Roulston, 210 Hynds Bldg., Cheyenne.

Idaho—Dr. Jennie Gardner, American National Bank Bldg., Idaho Falls.

Kentucky—Dr. A. B. Johnson, 504 Brown Bldg., Louisville.

Indiana—Dr. C. K. Parker, Citizens Bank Bldg., South Bend.

California—Dr. F. E. MacCracken, 1561 L. St., Fresno.

ANNOUNCEMENT, NATIONAL CONVENTION IN THE NORTHWEST AT SEATTLE

August 3-8, 1931

Before the last delegate to the 34th annual convention at Philadelphia had reached home the organization of the local forces for the 1931 A. O. A. convention in Seattle was well under way.

Without exaggeration let it be known that the moderate climate of Puget Sound permits one to work or vacation as he will at any time of year.

With a large area of the country in the throes of one of the worst droughts in history Seattle still enjoyed normal weather and no excessive summer heat interfered with an early start to make the 35th annual meeting the *best convention ever.*

This is the attraction which the northwest offers you in 1931 to "combine convention business with vacation pleasure". Plan to get away from the heat next summer; plan to take a full month in comfort and see the natural beauties of this country.

MORE AND BETTER OSTEOPATHY IN THE NORTHWEST!

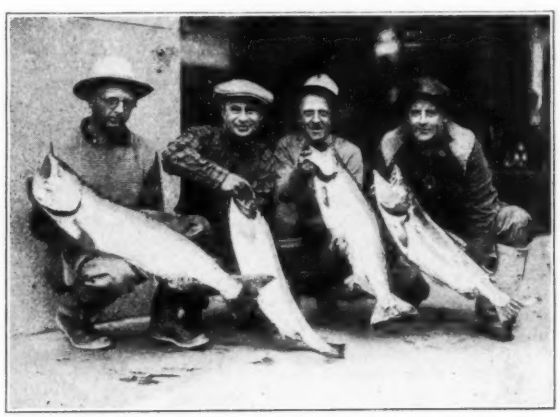
F. M. B. MERRITHEW,
910 Joshua Green Bldg., Seattle.

SEATTLE—CITY OF YOUTH AND HEALTH

Seattle is young. Her first settler arrived only so long ago as 1851, and located on what is now known as Alki Point, one of the city's most popular summer beaches today, and moved the following year to the head of Elliott Bay, where they founded the present commonwealth of more than 365,000 people.

Seattle's builders were home-lovers, with a wise care for the foundations of citizenry. Thus they looked to their schools, their churches and their health. In the last item Nature has been profligant in the matter of climatic conditions and beauty of scenery, a combination that tends to outdoor life and its resultant benefits.

During the first twenty years of the present century, the population of Seattle increased at the rate of 290.8 per cent! Yet Seattle has never "boomed." Her fame as a delightful city in which to live, in the center of an area rich in great natural resources and business oppor-



A PUGET SOUND (WASH.) SALMON CATCH

tunities, and as a glorious place in which to spend a vacation at no matter what time of the year, has spread gradually throughout the East, the South and the Middlewest.

With an annual death rate for the last decade of but 9.78 per thousand, Seattle has been ranked as America's healthiest city of her size. Her climate for a period of 37 years shows a mean average temperature of 51.4, the precipitation for the same period averaging 32.9 inches, and the annual precipitation 34 inches. Her pure, cold water comes from a distant mountain lake. With such an environment and the fact that her health and sanitation department watches with keen interest the welfare of her people in food and general health, it is not surprising that both physical and mental achievements should have been attained by not only some of the older, but the younger members of her community, in testimony of which may be mentioned the names of Wilbur Houston, winner of the first Edison scholarship in 1929, and the swimming champion, Helene Madison, who broke the world's record in three different events on three successive days, a few months since. [Helene Madison's picture appears on the cover of the November issue of OSTEOPATHIC MAGAZINE.]

Situated on the trade routes of the world, from Seattle's docks ply the ships of all nations, carrying products to far lands, from which they return with such cargoes as America needs.

Of this city's more than one hundred square miles, over one-third is water—her beautiful harbor of Elliott Bay, reaching in from Puget Sound on the west, and the fresh water lakes that lie north and east, two of which are within her borders, and the other forming her eastern boundary, while connecting the fresh water harbor of Lakes Union and Washington with Puget Sound are the locks and canal that are second only in size to those of Panama.

Four transcontinental railroads terminate at this metropolis of the Pacific Northwest. Here the largest airplane manufacturing concern in the country is operating, while along the waterfronts are the factories and industrial plants of lumber, steel and foodstuffs, the number and magnitude of which are constantly growing.

In beauty of site and environment there are few cities, if any, that rival the next convention center of the American Osteopathic Association, where from every terraced thoroughfare there are inspiring vistas of water and snow-capped peaks and distant forest ranges; where there are miles of delightful boulevards, winding over heights, through flower-embowered homes and beautiful parks.

SARA WRENN.

EUROPEAN VISITORS

We have been particularly fortunate this summer in having a number of visitors from across the water. Most of them came to the Philadelphia Convention. Others came over on other missions. Several visited the Central Office.

Dr. Wilfrid Streeter of London stopped over en route to Denver where he took postgraduate work. He also visited Detroit where he took a course at Dr. W. H. Gillmore's Varicose Vein Clinic. Dr. Streeter is well known as the author of an osteopathic book entitled "The New Healing" which has been generously reviewed in many of the leading publications of Great Britain and has enjoyed a ready sale on both sides of the Atlantic. A second edition is now on the press.

Another visitor of note is Dr. Grantham Browne of London, one of the leading osteopaths in Great Britain, who has been taking several postgraduate courses in this country.

Dr. J. J. Dunning, President of the British Osteopathic Association and Third Vice President of the A.O.A., attended the national convention.

Others who attended the convention were Drs. Marion Hall and Jean Johnston of London, Dr. Mabel Anderson of Glasgow, Dr. Pearl Magill of Monte Carlo, and Drs. Catherine Lynch and Albert E. Guy of Paris.

We are happy to receive these visitors from the other side and hope we may have the pleasure of seeing many others in the near future.

CONVENTION HEADQUARTERS

The Olympic Hotel of Seattle, Washington, has been selected as official headquarters for the 35th Annual Convention of the American Osteopathic Association, meeting August 3 to 8, 1931. The Olympic is the second largest hotel on the Pacific coast and with its one thousand rooms, each with bath, a special effort is being made to house every convention delegate under the one roof. Every business session, committee meeting and other activity of the convention will be held in The Olympic.

The Olympic has every facility for handling large national conventions. Thirteen private banquet halls and ball rooms, five public dining rooms, extra large lounge and lobbies, and a record of more than 150 national and regional conventions held in the hotel during the past five years, assures the osteopathic convention the best possible service.

Seattle presents a wealth of beauty and interest for the convention visitor. It is the largest city of its age

OLYMPIC HOTEL, SEATTLE

in the world. Alaska, the Orient, the South Seas—the romance, color and trade of distant seas mark the business and cultural life of the city. Blessed as few cities are—with a wealth of natural scenic beauty, the sea, lakes, mighty forests, towering mountains—Seattle invites the convention delegate to linger longer in this charming land of the evergreen Northwest.

The Washington Osteopathic Association is making rapid strides in working out a complete and interesting program of preconvention and postconvention entertainment as well as a comprehensive program of entertainment for convention week.

SIDE TRIPS AND TRAVEL TIPS

Please write about all your travel hopes, plans and desires in connection with your Pacific Coast trip, at your earliest possible moment to this office.

Immediately your queries will be turned over to travel experts, who will give the fullest information, and place their services at your disposal.

The west is heavenly at any season, but the wise prefer late June and July, especially is this true of tours to that wonderland, Alaska. Never have all who sought to visit that delightful country been able to go, because of neglecting to make their reservations in time.

Hawaii is just outside our door; and for that paradise it is wise to make reservations early, too.

Whether your plans include trains, motors, boats or airplanes, I will see that you receive expert assistance, which may enable you to include side trips to national parks and monuments, water voyages and mountain trails —many of the world's greatest natural beauties, with little or no additional expense, when purchasing your tickets.

Tell me your travel wants—*experts will do the rest.*

Roberta Wimer Ford,
610 Hoge Bldg., Seattle, Wash.

ALL ABOARD FOR HAWAII

Two years ago in a meeting of that small but remarkably important group of osteopathic physicians practicing in that territory of the United States known as "The Paradise of the Pacific," the possibility of the A. O. A. at some time accepting an invitation to hold a national convention in Hawaii was discussed. The impracticability of the undertaking was at once apparent. But out of that discussion grew a sincere desire on the part of that interesting and peppy group that a goodly number of those of the profession practicing on the mainland might at some time enjoy the benefits from such an excursion. A number of the mainland doctors who from time to time visit the Islands were brought into the discussion and a post convention tour was suggested.

Having lived in the Islands for two years and fully appreciating the delights and benefits that cannot but accrue from three weeks spent on the Pacific and in these delightful Islands, where the traveler enjoys all the luxuries of ultra modern living, and at the same time all the romance, not only of romantic Hawaii, but of all Pacific countries, I do not hesitate to recommend such a tour.

With the hearty coöperation of the osteopathic physicians practicing in Hawaii, such a tour is being arranged to immediately follow the convention in Seattle next August.

Charlotte McCuskey,
718 6th Ave., Council Bluffs, Iowa.

Department of Professional Affairs

VICTOR W. PURDY, Chairman
725 Caswell Bldg., Milwaukee, Wis.

HOSPITALS AND SANITARIUMS

OREL F. MARTIN, Chairman
43 Evergreen St., Jamaica Plain, Boston

RIVERSIDE, CALIF.

It is reported that the board of directors and the staff of the Riverside Osteopathic Hospital and Sanitarium with their wives held a banquet about September 20, at which very satisfactory reports were given regarding the progress made during the two years the hospital has been open.

To September 1, 1930, the total number of patients had been 281; maternity cases, 73; surgical, 93, and general, 59.

The clinic, which has just been open during part of this last year, showed treatments given, 144; minor surgical operations, 10, and glasses fitted, 3.

VANOSSE HOSPITAL, STOCKTON, CALIF.

The name of the El Dorado Hospital at Stockton has been changed to the Vanosse Hospital. Dr. O. E. Vanosse is proprietor and physician in charge.

The hospital is now located at 10 Hiawatha avenue. It is run on an 18-bed basis with a capacity of 25. There is complete modern equipment and enlarged surgical and obstetric quarters. Nurses rooms are upstairs.

DR. G. M. STEVENSON'S OFFICES

Dr. G. M. Stevenson, Kent, Ohio, has opened new offices consisting of 14 rooms and including sanitarium facilities. Dr. Stevenson says that osteopathic treatment is the chief thing in his practice and he finds that this is strengthened by the modern diagnostic and operative equipment which includes x-ray apparatus, electrotherapeutic equipment, colonic irrigation, etc.

BASHLINE-ROSSMAN OSTEOPATHIC HOSPITAL

The Bashline-Rossman Osteopathic Hospital, Grove City, Pennsylvania, has opened a new wing including several private rooms, a new operating room and amphitheater with a seating capacity of one hundred, adjoining delivery room and nursery, orthopedic operating room and a new elevator. The laboratories have been moved into the new wing. An adjoining property has been purchased and converted into a nurses' home. Clinics will be held at the hospital regularly for the advantage of the profession in the community.

BUREAU OF CENSORSHIP

GEORGE J. CONLEY, Chairman
810 Chambers Bldg., Kansas City, Mo.

THE SPECIALIST, THE REFERRING PHYSICIAN, AND THE FEE

Whatsoever ye would that men should do to you, do ye even so to them. (Matt. 7-12)

A consultation is, in proper time and place, both a necessity and a safeguard. It is a measure of protection to the attending physician. It divides the burden of his responsibility. It brings a fresh, unbiased and in the majority of instances, a more experienced mind to bear upon the problem involved. It enhances his reputation for carefulness and consideration for his patient in the eyes of all interested parties.

On the patient's part such a precaution can be construed only as a measure of safety to himself, evincing a desire on the part of the physician to leave no stone unturned that would make for his future welfare.

Consultation means premeditated cooperation between attending physician and specialist actuated first, by the common desire to safeguard the patient's condition; second, to protect the professional reputation of the attending physician, and thirdly, to maintain the professional prestige of their school of practice.

Harmonious intercourse and understanding between attending physician and specialist is of the utmost importance to the successful outcome of such a relationship. There must be a spirit of conciliation and fair dealing on both sides.

The specialist is called in consultation because the attending physician has gotten into deep water, frankly beyond his depth and he needs help. Again the case may have progressed beyond the realm of the field of general practice and requires the services of one trained in that branch of the special work manifested by the condition of the patient. Or it may be the general man has a thorough understanding of the case, is handling it properly and competently but consultation is prompted by some meddlesome friend or relative.

In any event the specialist should not assume an air of undue importance; he should be courteous and considerate in his dealings with the attending physician and he should be very careful not to create the impression of taking charge of the case to the detriment of the attending physician.

All this is covered very well by our code of ethics. One thing the code does not mention specifically, and that is the attitude of the attending physician with respect to the specialist regarding fees, courtesies, and general considerations.

The fee is gauged by the professional reputation of the doctor, the distance he has to travel, the time consumed on the case, the expenses involved in making the trip, the severity of the conditions under examination and the financial standing of the patient. When the specialist is called these matters are generally ascertained and agreed upon before the trip is made. However, when the patient is brought to the specialist by the attending physician or, if this is impractical, the patient is instructed to make the trip unattended, some of these little niceties frequently are overlooked. There is a growing tendency on the part of the referring physician to fix arbitrarily the fee the patient shall pay for the service rendered and this without the formality of consulting the specialist. For example, a general examination is needed and the patient is informed that the fee for such a service will be ten dollars. It may be the case will require in addition to case history, physical and routine laboratory examinations, special adjuncts such as the x-ray, bronchoscope, cystoscope or intricate blood chemistry reactions which obviously could not be included in the naming of such a fee. Any addition to the sum stipulated by the referring physician however, breeds trouble and dissatisfaction on the part of the patient. The referring doctor, to placate the patient and to maintain his standing, feels that he must side with him against the specialist, thus disharmony, suspicion and antagonism result.

The patient may need a surgical operation and the referring physician fixes an arbitrary sum for the same, rarely if ever commensurate with the service rendered, usually pitifully small, and sends said patient along with that assurance. No consideration is accorded the severity

of the case, the character of the pathology, the skill and experience required, the risk involved, the responsibility to be assumed or the probable length of time that will be required to consumate the hospital seance. The patient comes with that definite assurance, may drive up in a new limousine, engage the best room in the hospital and make provision for day and night special nurse service. The specialist, if he would maintain peace and harmony with the attending physician and the patient, must cheerfully acquiesce to the conditions imposed. His returns from his handling of the case may not net him fifty cents a visit on the aftercare, allowing him nothing for the skill, experience, and judgment necessary to do the operation. In some instances the fee proposed did not equal one-tenth of the hospital and nursing expense voluntarily incurred by the patient.

The doctor may call or write saying he has a clinic patient, one who can pay no fee, and the specialist agrees to do the work gratis only to find that they drive up in a motor car, engage a private room and employ special nursing service, making no attempt whatsoever to economize themselves but expecting the specialist to do it all. Again to keep peace he must cheerfully consummate his part of the contract.

These are not hypothetical cases. They are glaring instances of actual happenings and the feeling daily is becoming more widespread that the referring physician is the sole dictator as to the amount of the fee to be exacted by the specialist for the service rendered his patient.

Be it said in the majority of the cases the family physician is honest in his efforts to do the very best he can for his patient in the way of a fee. He has no mercenary motive. It is just a wrong conception of the relationship between doctor and specialist. Were the shoe on the other foot and the specialist tell some old chronic that the doctor would treat him or her until well for twenty-five cents a treatment or for nothing, as the case might be, the lesson undoubtedly would be more easily assimilated.

The osteopathic profession must rid itself of that bug bear of cheap prices and cheap service! It is vastly easier to talk service and to sell service! Quality is the easiest commodity in the world to sell and who has a better right than a doctor of osteopathy to sell quality?

Once a doctor in his desire to cinch a case quoted a very low fee to a man in good financial circumstances. It made the man suspicious. He immediately figured the specialist was incompetent so he investigated him personally before making his decision. Fortunately the specialist rated high professionally else the case would have been lost. This was an example of poor psychology and poor salesmanship.

The referring physician should not fix the price of any one's service except his own. If pressed for an idea as to the probable expense it is easy to preface his reply with "In my judgment Dr.——— may do his work for such an amount. I'll use my best efforts to get him to do so but he is the one to make the final decision." That leaves it open for adjustment. It removes every chance for misunderstanding and leaves the specialist free to propose a fee that will be just to the patient, that will not reflect upon his professional standing, that will enhance the prestige of the local physician with the patient and the sum total will boost the standing of their mutual profession, osteopathy.

In every instance it is obligatory on the specialist to give courteous attention to any suggestions the referring physician may make relative to the financial circumstances of the patient but he very properly may reserve the right to use his own judgment as to what he might consider a just fee. He is in no wise bound to comply with such suggestions.

In any consultation or reference the primary consideration of both specialist and family physician is the welfare of the patient; second, the family physician should feel grateful and thankful that he has some one to whom he can turn in the time of trouble for friendly advice and assistance, and lastly, the specialist should reciprocate by safeguarding in every way possible the professional reputation and prestige of the local physician.

In case of doubt measure it up with the Golden Rule, a code of ethics elastic enough to meet every need and broad enough to solve every problem! G. J. C.

Department of Public Affairs

E. A. WARD, Chairman
601 Second National Bank Bldg.
Saginaw, Mich.

BUREAU OF CLINICS

IRA W. DREW, Chairman
5929 Wayne Ave., Philadelphia

The establishment of an osteopathic clinic for the treatment of children in every city in the country is the dream of this bureau. Some day this dream will be a reality.

The work and expense of carrying on a clinic are factors that deter many from taking part in this public professional service. The Bureau of Clinics has mapped out a plan by which the expense may be defrayed easily. The work cannot be eliminated. The reward for that is in the satisfaction of a duty performed and the realization that the cause of osteopathy is being advanced.

To those who are now conducting clinics may I suggest that you make use of our osteopathic literature (the OSTEOPATHIC MAGAZINE and OSTEOPATHIC HEALTH)? A liberal supply of them should be at every clinic. I am continually surprised by the demand for literature at the clinics in Philadelphia.

Every clinic day each parent is given at least one copy of some osteopathic pamphlet. My experience is that literature used in clinics gets a much wider circulation than that given or mailed to patients in private practice.

Normal Spine Week is in the offing and every state clinic chairman is urged to begin now to prepare for this valuable osteopathic endeavor. Every clinic should take an active part in the work of this week. Plans for conducting examinations and general procedure during Normal Spine Week may be had from the chairman of this bureau or from the Central office at Chicago.

This plan can be utilized in the largest cities as well as in those small communities in which there is only one osteopath.

Again, let me urge upon every clinic group the importance of keeping contact with the state publicity director. These two departments should work in the closest cooperation in order to obtain the best results.

A model case record blank was adopted at the convention in Philadelphia. This blank was devised by Dr. Victor Purdy and a committee after the examination of many record blanks in use by osteopaths. All clinics are to receive a copy of this blank with the hope that it may be used so that there may be uniform records.

I. W. D.

INDUSTRIAL AND INSTITUTIONAL SERVICE

P. E. ROSCOE, Chairman
1001 Huron Road, Cleveland

BOBBY JONES AND OTHER NATIONAL GOLF STARS

Three of the four golfers in the semi-finals of the national amateur golf championship — Bobby Jones, Eugene V. Homans and Charles Seaver—are firm believers in osteopathy.

Bobby Jones, king of golfdom, arrived in Philadelphia five days before the opening of the tournament to receive treatment from an osteopathic physician to ease up his right shoulder. That the injured member did not bother Jones is evident from the way he swept through all opposition in the most sensational climax of his golfing career.

Eugene V. Homans, Englewood, N. J., had been using osteopathy for years, with satisfactory results, in the way of bringing his physical condition up to a par with those of the other contestants. Homans is the tall, somewhat frail youth who put up a courageous but vain attempt to keep Jones from garnering his 4th major title of the year.

Charles Seaver, Los Angeles, was receiving treatment from a Philadelphia osteopathic specialist, days before the drawings were made, to alleviate the painful results of a fall received in boxing last year. Seaver is

the 19-year-old high school boy who was defeated by Homans in the semi-finals.—J. B. G.

OSTEOPATHIC ATHLETIC PHYSICIAN AT NORFOLK, NEBRASKA

For the past seven years the Norfolk, Nebraska, Board of Education has elected doctors of osteopathy as athletic physicians. At a recent meeting Dr. L. C. Johnson was elected athletic physician for the Norfolk Junior College teams and Dr. O. D. Ellis for the high school teams.

DR. HALLADAY QUOTED

The Syracuse (N. Y.) *Post Standard* for August 2 had a two-column head over an interview with Dr. H. V. Halladay, who was visiting in Syracuse. The story told of the great number of athletes in the schools of Des Moines which come under Dr. Halladay's observation every year and emphasized Dr. Halladay's belief that "brain correlated with brawn is what counts now in football."

DR. J. J. O'CONNOR

Ted Reeve in "Sporting Extras" in the Toronto *Telegram* late in July told what Dr. John J. Connor "the old Argonaut Rugby player and coach, who now does a lot of highly successful tackling and blocking with the aid of an osteopathic table," did for Jack Guest before the latter won the Diamond sculls.

The Toronto *Mail and Empire*, August 14, mentioned Dr. O'Connor in connection with Joe Wright, Jr., who was soon to take a prominent part at the Canadian Henley and the Empire games.

BUREAU OF PUBLIC HEALTH AND EDUCATION

ARTHUR E. ALLEN, Chairman
415 Metropolitan Bank Bldg., Minneapolis

Questionnaires concerning results obtained by placing health column material have begun to come in. Papers which have begun using this material are very enthusiastic and requests for additional material have been received. A few editors seem to feel that a charge should be made for publishing this material but considering the fact that articles contain very little of actual propaganda it does not seem that this should be necessary. Our chief concern at present is to build sufficient circulation to create a good demand for this material. After that it can be syndicated and become an additional source of income for the A.O.A.

Letters were also sent to all state association publicity chairmen for the purpose of finding new outlets for the publicity material. Only a few have answered so far, but they are willing to go to work and that is the most important thing. We hope that many more states will have been heard from by next month and that many new contacts will be in the making.

A. E. A.

BUREAU OF PROFESSIONAL DEVELOPMENT

JOHN E. ROGERS, Chairman
411 First Nat'l Bank Bldg., Oshkosh, Wis.

TENTATIVE FIVE YEAR PROGRAM FOR RESEARCH IN THE FIELD OF CHILD STUDY

It is the purpose of the Osteopathic Child Study Association to provide opportunity for the publication of reports of the scientific work of the osteopathic profession in child study. The co-operation of all interested physicians and organized clinics is therefore essential for the collection of accurate data from individual case records. To this end we have outlined the following subjects for a five-year series of projected bulletins to which we solicit contributions of material.

Bulletin 1.—Osteopathic studies of children having a direct history of difficult birth, fall, or other accident.

OSTEOPATHIC STUDIES OF PROBLEM CHILDREN

Bulletin 2.—Report of cases of superior or high normal intelligence.

Bulletin 3.—Report of cases of low normal or subnormal intelligence.

Bulletin 4.—Report of cases of normal children showing a connection between the osteopathic lesion and variations of behavior.

Bulletin 5.—Report of cases of delinquents and youthful criminals.

Bulletin 1 will be issued as a preliminary bulletin but the order of appearance of the other four bulletins will depend upon the collection of the necessary material.

Material for *Bulletin 1* is acceptable without psychological report, but for the other four bulletins this is essential.

For the purpose of these studies the term, childhood, is used to cover the full pre-adult period.

For the sake of conformity, all records submitted should be on the standard record sheet prepared by this association.

As these publications are for the benefit of the scientific world and not primarily addressed to the osteopathic profession, the use of debatable terms in technical description should be avoided.

Since scientific method demands substantiation of findings by numerous experiments it is desirable to have the reports submitted represent as many cases as possible, and to defer publication until at least a thousand case records have been accepted.

The Osteopathic Child Study Association will publish its bulletins in limited editions, for its members. These bulletins will not be for sale except as members may wish to procure additional copies.

STATE LEGAL AND LEGISLATIVE

A. G. CHAPPELL
Legislative Advisor in State Affairs
Jacksonville, Fla.

(It is requested that when legislative inquiries and data are sent to Dr. Chappell copies be sent also to the Central office, that files there may be kept as nearly complete as possible.)

The original draft of the proposed basic science statute as prepared by Dr. W. C. Woodward, executive secretary, Bureau of Legal Medicine and Legislation of the American Medical Association, described it generally as follows:

The basic sciences were designated as anatomy, physiology, chemistry, bacteriology, pathology, diagnosis and hygiene.

The healing art was so defined as to include all methods of diagnosing and treating.

The members of the board were five in number, appointed by the Governor for terms of five years in such a manner that the term of one would expire each year. These members were to be selected because of their knowledge of the basic sciences, but no member to be actively engaged in the practice of the healing arts or any branch thereof.

This board would elect its officers, keep its own records, pay a per diem to its members and other expenses from the fees received. The treasurer should be under bond. The office of the board should be in the state capital.

The examinations should be conducted at such times and places as the board should select. The examination to be in writing, but could be supplemented by an oral examination and if practicable, supplemented by examination in the laboratory, dissecting room and dispensary, and at the bedside. A grade of 75 per cent in each subject should be necessary to pass. Should the applicant fall below 75 per cent in one and only one subject, he would be allowed re-examination at the next opportunity, but would be required to be re-examined in all branches. Should he fail in more than one subject, he could not be re-examined within the period of one year, nor until he presented satisfactory proof of additional study.

Furthermore the applicant must be twenty-one years of age or over; must be a person of good moral character; must have graduated from an accredited high school or its equal before beginning the study of the healing arts; and must pass the examination given by the board.

The statute excepts dentists, nurses, midwives and optometrists.

In 1925 the General Assembly of Connecticut enacted a law establishing a state board of healing arts. This board consists of three members, none of whom can have a degree in any of the healing arts or be connected with any hospital. The subjects examined in are anatomy, physiology, hygiene, pathology and diagnosis. It has a reciprocity agreement in it.

Minnesota has a basic science law arranging for five board members, two of whom are full time paid professors not actively engaged in practice of healing and appointed from the University of Minnesota; one doctor of medicine, one doctor of osteopathy, and one chiropractor. The Governor appoints them on recommendation of the separate boards of examiners. The subjects are anatomy, physiology, bacteriology, pathology, hygiene and, after 1931, chemistry. A grade of 75 in each subject is necessary, but failure in two subjects allows re-examination in these subjects. There is a reciprocity clause.

In Nebraska, the board is composed of five members appointed by the Department of Public Welfare. They are to be selected because of their knowledge of the basic sciences and shall not be licensed to practice the healing arts or any branch thereof. The subjects are anatomy, physiology, chemistry, bacteriology, pathology and hygiene. A grade of 75 in each subject is necessary. Failure in one allows re-examination on that one subject, failure in more than one requires re-examination in all. There is a reciprocity clause.

Washington state has a board of five members appointed by the Governor from the faculty of the University of Washington and Washington State College. The subjects are anatomy, physiology, chemistry, pathology and hygiene. The grades must average 75 per cent with not less than 70 per cent in any one subject. There is no reciprocity..

The Wisconsin board has three members who are lay-educators, none of whom shall be on the faculty of any department teaching methods of treating the sick. They are appointed by the Governor. The subjects are anatomy, diagnosis, pathology, and physiology. A grade of 75 per cent in each subject is required. Failure in one subject allows re-examination in that subject. Failure in more than one requires re-examination in all subjects. There is a reciprocity clause.

The District of Columbia board has five members appointed by the commission of licensure. No member of the board shall teach or practice the healing art while serving in that capacity. The subjects are anatomy, physiology, chemistry, pathology and bacteriology. There is a reciprocity arrangement.

The Arkansas board consists of the superintendent of public instruction and five others appointed by the governor. No member is to be actively engaged in the practice of the healing arts, nor a member of the faculty of any medical school. The subjects are anatomy, bacteriology, chemistry, physiology and pathology. A grade of 75 in all subjects is necessary. If failure in one subject, re-examination is allowed at the time of the next examination. If failure in more than one subject, the applicant must wait a year to be re-examined. There is a reciprocity arrangement.

The Connecticut examination is covered in a half day. The Board regards its primary function as a "weeding out" process and the examination is by no means as comprehensive as that required by the actual licensing boards.

In the next issue of THE JOURNAL we will take up the individual good and bad features of each of these laws.

OSTEOPATHIC HEALTH OFFICER IN CALIFORNIA

It is reported that Dr. J. H. Hansen, Ukiah, Calif., has been appointed city health officer.

SCHOOL EXAMINATIONS IN ILLINOIS

Dr. C. O. Casey, Decatur, Ill., reports that the schools of that city employ about 365 teachers and it has been the practice for years for all teachers to undergo physical examinations shortly before the beginning of school. Osteopathic physicians, he says, have always had their certificates accepted the same as any others.

Last year a doctor of medicine became a member of the school board and he advised that the school system accept the services of the city health officer with no charge as medical advisor.

When the teachers received their regular health certificate blanks this year there was a letter with them saying "there was some complaint last year concerning the filling of these blanks due to the fact that few teachers went to osteopaths . . . I trust that this year we may be able to consult a doctor of medicine."

The Decatur Osteopathic Society mailed a letter to the teachers saying—"Upon investigation it was found that the complaint was made only by the medical political members of the city medical society. . . . Not relying upon the merit of their system, they have resorted to political methods in an attempt to eliminate professional competition. . . . Realizing the source of the influence . . . and desiring to assist the members of your profession and all other citizens to continue the privilege of selecting the physician of their choice in all matters pertaining to health in our public schools, we had a conference with [the superintendent of schools]. Later we had a conference with Dr. Smith, school physician and public health director. . . . Both gentlemen assured us that the signatures of osteopathic physicians would be accepted on your health certificate."

CITY HEALTH PHYSICIAN IN MAINE

Dr. Paul A. Gregware, Bath, Maine, has been elected city physician.

IS CHIROPRACTIC THE PRACTICE OF MEDICINE?

The question whether chiropractic is "medicine and surgery" as contemplated in the penal clause of the medical acts of Pennsylvania was argued before the State Supreme Court, October 1, in the appeal of six chiropractors of Alleghany, who brought an equity suit for an injunction against the members of the state board of medical education and licensure asking that they be restrained from enforcing that clause of the act. The chiropractors maintain that the law was not intended to apply to their work; that they cannot be prosecuted under it and that they have a right to practice without a license.

Special Articles

CARE OF ATHLETES*

ARTHUR E. ALLEN, D.O.
Minneapolis

Osteopathic clinics are being established in various parts of the country and efforts are being made constantly to organize more. Many of our physicians feel that they do not have the opportunity to do such work. That opportunity exists in the field of athletics because wherever competitive sports are carried on there is a desire to win, and osteopathically trained physicians today offer to the coach and the athlete the one logical method of obtaining and maintaining physical fitness for successful competition. Physiotherapy equipment, so common in many training quarters today, sometimes serves as a useful adjunct for symptomatic treatment, sometimes it is an actual detriment. Nerves are being infiltrated by some of our medical physicians to deaden pain so that the injured athlete may compete, but pain is Nature's danger signal for injury, and with that signal gone no one can even imagine what permanent injury may be done to the weakened, disensitized part. I have talked to many athletes who have received definite help from "Bone-Setter" Reese, and in every case his work was done with his hands, correcting structural derangement, not with lights or drugs.

If ever a group of cases presented structural derangement as a cause of impaired function, athletic injuries is that group. Muscles are constantly being strained, muscles that are attached to movable bony segments. A muscle or group of muscles with impaired nerve and blood supply becomes contracted and hardened. Those muscles cannot undergo severe strain without being injured. An osteopathic physician in charge of a team can find this incipient injury and correct the cause before disability occurs. It is always much easier to prevent certain kinds of injuries than to correct them after they happen. Then again, no predisposing cause may exist before the actual injury but due to sudden, traumatic force structural derangement occurs. Again it takes osteopathically trained fingers and brain to straighten things out so that nature can repair the damage in the shortest possible time.

When I first started this kind of work ten years ago, I followed directions as formulated in medical texts with childlike faith. And the results I obtained were no better

*Address given before the A.O.A. convention, Philadelphia, 1930.

than any one else had been getting for years. I was not satisfied with those results and tried thinking osteopathically for a change and things began to happen very rapidly. We found out that just because an M. D. with a good reputation and a confident tone of voice said that some athlete had pleurisy and would have to be out of the game for from two to four weeks didn't mean that such had to be the case at all. And when we found a man with a severe charleyhorse of several weeks duration under medical care, we began to get large amounts of diabolical pleasure out of putting him back in the game again in a few days. And we didn't tell everybody just what we were doing either.

Two days before the memorable Minnesota-Illinois game, when Minnesota defeated Illinois and the famous Red Grange, Clarence Shutte and Carl Lidberg, regular halfback and fullback of the Minnesota team, were brought to the office, both of them entirely through, as far as playing football was concerned. Shutte had lumbago so badly that he had to be helped into and out of bed, and could not dress himself without help. Lidberg was equally as badly off with a severe charleyhorse. I hesitate to tell you the result as it sounds too much like fiction, but Minnesota won. The score as I remember it was 21-6, with Shutte making most of the touchdowns and Lidberg taking an active part in stopping the famous red-head cold.

On another occasion Carl Martineau, one of Minnesota's contributions to Walter Camp's All-American team, was tackled and thrown violently to the ground. When he came off the field at the end of the first half, he complained of severe pain through the chest when breathing and inability to straighten up. The medical physician and one of the coaches examined him carefully for broken ribs, without result. My examination revealed a slipped rib, and replacing it gave him immediate and complete relief, and he played the remainder of the game without discomfort.

Many more interesting cases might be quoted along the same line but there is not time. Those of you who have been doing this work have seen the wonderful results obtained by correcting bony lesions. The purpose of my talk today is to interest those of you who are not doing this work so that when you return home you will try to get at least one school to care for. And I also want to stress the bony lesion as being a causative factor in the large majority of injury cases of this type. We give from a thousand to fifteen hundred treatments a year to injured athletes and if we obtain better results than others it is because we stick to bony lesions. There is no trade secret about this work; all that is needed to put an athlete back in the game in a remarkably short time is a knowledge of anatomy and the ability to locate the seat of trouble. For example, a baseball player comes to you complaining of a lame shoulder. First find out how he throws. If he is a pitcher find out if he uses a curve ball most of the time. Certain muscles are used more in twisting a ball to make it curve than if he were using a speed ball that is not twisted in throwing. Then locate the muscle or group of muscles that are contracted. After deciding which ones they are, decide on origin and insertion, check those over, including nerve supply, and you will find the trouble in the large majority of cases. Now a football shoulder is different from a baseball shoulder because the injury occurs under different circumstances. A baseball arm is usually the result of a pulling force while a football shoulder is a result of a crushing, bruising or twisting force. Subacronial bursitis is frequent in football and infrequent in baseball. In other words, injuries vary depending on the type of athletic competition engaged in and a knowledge of these different types of injuries to the same part will come with experience only.

Not all our thought should be devoted to treating injuries however: a great deal of time should be spent in planning how to avoid injuries. That requires an intimate knowledge of the weak spots in each athlete you are caring for. If a man is known to have a weak ankle, wrist, or knee, work out some type of suitable protection for him; give him special exercises to do, etc. So much for the individual where a weakness is present. Now to avoid new sprains and strains, have the coach put the entire team through limbering up exercises five minutes at the start of each practice session. Vary the exercise to suit the type of sport engaged in. If you have a track team, give the runners exercises to stretch back and leg muscles before they begin running. Give the weight, javelin, and discus throwers additional exercises for arms and shoulders. Javelin throwers frequently get trouble in the elbow from the twist that is necessary in throwing the javelin. The regular army setting-up exercises are very good for general loosening up, but special exercises are often necessary. It would be ideal if he had the time to go over each man after a game or practice and check up for trouble, but not many of us can do that, so exercises are suggested as the next best means of accident prevention.

The roentgen ray has not been mentioned so far, but we consider it an indispensable aid in this work. I saw a man play for five minutes in a football game with the lower inch of the fibula broken off. Consequently, when a man limps into the office complaining of a sprained ankle, it does not signify that a fracture does not exist. A sprained ankle should be used to get quick results; a fractured ankle should be rested to get quick results and the x-ray is often the only positive means of diagnosis. We have roentgenograms made of all sprained ankles on general principles and take no chances. An x-ray film proved that a stiff neck following a football game was in reality a fractured cervical vertebra. Here is a recent example. A boy of fourteen was playing baseball. He stumbled over one of the bases after making a hit and fell, hurting his knee. About a month later we saw him. A careful examination revealed nothing in the knee, but x-ray pictures showed an early stage of coxa vara, a loosening of the epiphysial line of the head of the femur. This would probably have developed into a complete slip but for the picture.

Now in closing allow me to point out that the injuries you meet among athletes are exactly the same as those you meet in your regular practice. The increased experience you will gain in caring for athletic injuries will repay you many times over if you never receive one cent of pay for your werk. Athletic work will pay you in new friends, new interests, new pleasures and in most instances, it will pay you enough financially. It will add to your prestige as a physician and, by bringing special attention to the fact that you are an osteopathic physician, it will help towards the advancement of the profession.

In closing, let me offer you this final statement: Osteopathic treatment has proved in the care of athletes that the period of disability from certain types of injury may be reduced from twenty-five to ninety-five per cent—in some cases a hundred. Insurance companies pay thousands of dollars annually for disability that would not be required if the patients were having osteopathic care. As a result accident insurance rates are higher than necessary and the public has to pay for it. Employers and employees lose thousands of hours of labor that might be put into productive efforts otherwise. The osteopathic profession offers one of the most important, if not the most important, single factor towards increasing business efficiency and economy, that of a lowered period of personal disability.

A SPECIFIC LESION IN DIABETES

W. LUTHER HOLT, D.O.
Los Angeles

Some years ago a member of the A.O.A. wrote the editor of Osteopathic Physician, a publication now out of print, asking members of the profession if any one of them had discovered a specific lesion for tuberculosis, syphilis, and diabetes. Believing the doctor sincere in asking the question I answered for diabetes, and related my experience with a number of cases for his benefit.

Without giving time to try out the technic I advised, this doctor wrote immediately to the Osteopathic Physician, quoting many textbooks, all of which were written by medical men, in an attempt to prove that it was impossible for such specific lesion to exist. Not looking for nor wanting an argument, I did not reply. It so happened, however, that many of the profession read my article, some tried out the technic, many of whom wrote me that by using it they were able to make their diabetic patients sugar free. One doctor in London, I remember, had five diabetics at the time, all of them becoming sugar free after using the technic.

I wish to state positively that the correction must be maintained; if the lesion returns the condition will return. This however, is not different from other lesions, because we all know that motion must be maintained in order to get permanent results in any condition.

The lesion is in the upper two joints of the cervical region, the occipito-atlanto-axial joints. By correcting these lesions, getting free motion in each of them, I have been able to make 4 and 5 per cent urine sugar free. Not only has the urine been sugar free but blood tests showed no sugar.

The technic of correcting these lesions is usually not complicated; the corrections you were taught in college and whatever experience one may have gained in practice will suffice. I wish to impress again, however, the fact that the motion must be maintained or the blood and urine will show sugar again, which in itself should prove the lesions just mentioned are specific.

The theory behind this lesion, as to why it will cause sugar in the urine, is something for research workers to find out. My personal theory is that in some manner the diabetic center, close by, is irritated in some fashion. I will give a few case histories:

Patient: Mr. A. B., aged 65. Urine showed 5 and 6 per cent sugar. Two toes of one foot were gangrenous. This man drank a pint of whiskey a day and would not diet. In spite of these facts, after six months' treatment the patient's toes had entirely healed; and where formerly he had been brought in a machine to the office, after the six months' treatment he was able to walk all around his hundred and sixty acre farm. Urine showed no sugar as long as correction was maintained.

This patient was the first treated, the one upon whom the first specific lesion was discovered. Being before the days of insulin, this patient would have died shortly had he not obtained relief from osteopathic treatment. The case was treated in clinic before graduation, the clinical instructor telling me to give him a general treatment "with special attention to the splanchnic area," stating that he "would die anyhow."

Not getting anywhere by the treatment outlined, and even then being curious to find some other region that might need treatment, I found the cervical lesion, correction of which resulted as just described.

Patient: M. N., aged 12. Urine showed 2 to 3 per cent sugar, with occasionally 4 per cent. The state chemist made all analyses in this case. When the lesion existed I would send him a sample. He invariably returned a report of from 2 to 4 per cent sugar. I would make the necessary correction, have my patient maintain a certain position for an hour or so that the joint tension might subside. An hour later I would take a sample, send it to the chemist, who would return his report—sugar free. In this latter case the chemist would not believe that the urine came from the same patient. He had never heard of anything of the sort, once they showed that much sugar, they "always showed sugar" he stated.

The following case, which is perhaps the most phenomenal because the patient showed 9 per cent sugar in his urine and was taking 65 units of insulin daily; and because I have been able to show the results of my specific therapy as against insulin, I will give the report more in detail.

Patient: Mr. W., aged 22.

Occupation: Operating a lifting crane in a manufacturing plant, by means of levers. Worked from eight to sixteen hours a day.

History: After complaining of weakness, trembling, inability to work steadily he applied to an M.D. for treatment. Getting no results he went to a Battle Creek institution.

(The following are urinalyses taken from the time he knew he had diabetes, all reports being in 1926.)

	Sugar	Acetone	Diacetic Acid	Specific Grav.	Microscopial
June 18	8.0%	Mod. amt.	Considerable	1.036	Uric acid crystals
July 6	7.4%	Trace	None	1.033	Calcium oxilate crystals
Aug. 16	6.2%	Mod. amt.	Considerable	1.027	Few pus cells
Aug. 30	3.45%	Considerable	Mod. amt.	1.030	Normal
Sept. 13	9.0%	Small amt.	None	1.027	Normal
Oct. 11	8.6%	Mod. amt.	Mod. amt.	1.031	Normal

(Total amount urine for 24 hours was from 3200 c.c. to 4990 c.c.

Treatment up to October 14 consisted almost wholly of dieting and baths, under which procedure sugar went down, then up again to its preceding high of 9 per cent. The patient then went to a metabolic clinic, an endowed institution with unquestionably able physicians in charge. Both urine and blood tests were made. Unfortunately I am unable to give the results of the blood tests—except one of the last reports which I will give later on in this article.

Patient was put on insulin, 40 units being given. Sugar still showed until the insulin was increased to 65 units, when the sugar disappeared. This dose was continued daily, two doses being given of 35 and 30 units each. I will quote the patient: "I was told by the physician at the metabolic clinic that I was the worst case they had ever seen, and that I would have to continue taking 65 units insulin for the balance of my life."

The patient gave himself the insulin, made his own urinalysis daily, ate his food in gram measures, and conducted himself exactly as told, when he applied to me for consultation on Dec. 8. I started treating him as I have treated others for diabetes. Physical examination showed heart, lungs, and blood pressure normal, and the patient was not constipated. However, practically his whole body looked swollen, puffy from his face to his feet. Since starting insulin he had gained twenty pounds.

Lesions found: Occiput lateral and rotated to right. Atlas lateral to the left on axis, which was a compensatory lesion. Dorsals 2-3-4 locked. Limited motion between 10-11-12 dorsals and first lumbar.

Treatment: Motion was secured in the lumbar and dorsal area, which was easy. Treatment was then started on the cervical lesions, the dorsal and lumbar being given no more attention. Patient was allowed to continue with the full 65 units of insulin for the first two weeks. At that time I had secured good motion in the cervical vertebræ, and the insulin was cut down one-third, or to 42 units. Urine and blood examinations were made and no sugar was found. After another ten days the insulin was reduced to 28 units. Blood and urine still showed no sugar. One week later the insulin was cut to 25 units.

At this time, and without informing me until his return, the patient drove one hundred miles to the metabolic clinic for an examination. Later, he told me that the physician in charge "was dumfounded when I told him I was taking but 25 units, and said for me to get right back to 65 units. He took a sample of blood and said he would report to me, but was sure that I would show lots of sugar."

I have the doctor's report on my desk before me—the patient kindly allowed me to retain the letter. It says in part: "Your blood sugar is perfectly satisfactory. I think you have made excellent progress."

Patient lost eight pounds up to this time; the puffiness had left his body, swelling had left his ankles.

A few days later I reduced the insulin to 20 units. Urine showed a trace of sugar next morning, by his own test. I took another sample and sent it to the laboratory. It came back showing 0.7 per cent sugar. The next day and for the following week the urine was sugar free. Then I sent the patient to the laboratory for a blood test. The test showed no sugar. I was enthusiastic—and so was my patient. The insulin was reduced to 12 units! No sugar for three days, at which time the patient came to the office saying he did not feel so well. I examined the upper cervical joints and found that they were in exactly the same position as they were when he first came to me—every joint out of line and locked! He had to go back to 25 units.

Each visit thereafter I found the joints out of position and was very much disappointed, as was my patient. I could not understand why the correction was not maintained. However, he told me that he had changed positions at the plant where he worked.

I drove out and watched him work without his knowing that I was there, and saw readily why I was not able to maintain correction. Standing on a high platform he would reach away out and around for a lever, twisting his neck as he did so, and was keeping the joints continually on tension, which locked them in their malposition. The patient was discouraged because he had to get back on more insulin; and I was unable to convince him that it would be better to give up his position.

I have gone into detail in describing this case to emphasize one point: Correction must not only be made —it must be maintained!

Osteopathic Physical Therapy Society
Council of Physical Therapy Research
of the
American Osteopathic Association

JOHN LEO HANSON, President
EDWARD H. FRITSCHE, Treasurer
JOHN N. HINES, Secretary

THE CONGRESS AT LIEGE AND PHYSICAL THERAPY IN EUROPE

J. L. HANSON, D.O.
Philadelphia

In Belgium there is a saying dating back to the monks of medieval times purporting to describe the spirit of the little nation's cities. Brussels, it is said by those authorties, rejoices in its noblemen; Antwerp in its money; Ghent in its turbulence; Bruges in the beauty of its women; Louvain in its learning and Malines in its fools.

In this provocative old saw there is no mention of Liege; perhaps it has remained for Liege to rejoice in being, at least for a time this September, the center of a relatively new therapy which today is definitely revolutionizing the practice of the healing arts.

Liege, as you know, was the location of the International Congress of Physical Therapy and an interesting as well as fitting location it was.

In the valley of the Meuse, the city is intriguing enough in its own right as an old and prosperous manufacturing town, the seat of a great university where the Congress was held. Quaint costumes abound and dog-drawn carts are still seen, pulled by splendid Belgian animals that remind one of Ouida's famous "Dog of Flanders."

Added to these attractions are the city's eventful wartime experiences. It was at Liege that the German artillery first proved its efficiency against fixed forts and the town and surroundings suffered greatly.

It was in these surroundings that physicians from all parts of the world gathered to substantiate their success with physical therapy. Is it difficult to imagine how such a vast number of medical physicians have become so deeply interested in a newer school of healing art? Is it difficult to conceive scores of great scientists turning to a therapy which stresses the freedom of the body, its joints and ligaments and tissues; freedom of the circulating fluids, blood and lymph?

It should not be difficult for the osteopathic physician to comprehend this revolution in healing. For every man at the Liege Congress emphasized the fact that any lack of freedom, curtailment or congestion of the body's vital functions, cause disease. And did not Dr. Andrew T. Still preach this long before the mechanism of physical therapy was known?

Probably this will be better understood when I quote in part the words of one of the leaders in the medical profession, a leader and exponent of physical therapy, a leader of men and in his heart, I believe, a sincere believer in osteopathy.

"The general public," this man said, "has for a long time been passing judgment on the limitations in the practice of medicine and public indifference to the profession is very largely due to professional disregard of the use of the methods that are neglected. That the public have confidence in methods that are not constituted a part in the practice of medicine is due to professional negligence. When a meeting can be held of 600 prosperous osteopaths (referring to the National Convention in Philadelphia, July, 1930) who are serving the public because the medical profession has absolutely ignored principles in comparison with the medical methods, there must be a reason. Why does not the medical profession thoroughly investigate and adopt what is good instead of allowing the public to go elsewhere and engage the services of those who give them relief? There is today something radically wrong with medical teaching in failing to observe and employ methods that have proved practical. Until the medical profession, as a profession, recognizes physical therapy as it should be recognized, the public will keep away from those who ignore it and other organized bodies not recognized by the medical profession will thrive."

What better compliment could be paid our own profession, than this, especially coming from one who has been a worker and a leader in the field of medicine for more than fifty years?

But how many of our own osteopaths place themselves in the same position as do many of the medical fraternity, believing that they can accomplish all that is required in the healing art with their ten fingers and without appropriate adjuncts?

Do not the osteopaths and the physical therapeutists believe fundamentally the same, that the well being of the individual depends upon the maintenance of the structural integrity of the body mechanism?

Osteopathy, for more than half a century, has fought its way up through the decades and has today reached a place in the scientific art of healing. It is receiving recognition by a vast army of individuals and more and more so-called regular physicians are accepting its value.

The Liege Congress was one of the most complete ever held. All diseases and ailments were discussed and in no way did drugs enter the subject. Clinics were offered, demonstrations of technic were of such nature that the most fastidious could not refuse to accept the curative forms. It clearly demonstrated that natural methods in the care of the sick or as a prophylactic measure are the most effective. Drugs and surgery in the majority of instances were condemned.

It showed how large a percentage of surgery could be avoided, if more physical therapy was understood. It conclusively proved that manual and mechanical measures are far superior in the treatment of such diseases as influenza, pneumonia and cardiorenal diseases than drugs. All physical methods were equally given credit for their worth.

When compared with the work in European centers, the present uses of physical therapy in this country seem to be a long way behind. This applies not so much in methods as in the number of cases handled in the various institutions as well as in clinics and private establishments throughout the continent.

To illustrate: At the London Clinic, specializing in light therapy, the number of treatments of out patients now is in excess of 100,000 a year. This center uses mainly the Finssen light, a carbon arc arrangement giving ultraviolet, visible light and infra-red rays in one treatment.

St. Bartholomew's Hospital, also in London, uses the entire range of physical modalities and in the past year treated more than 300,000 patients in its clinics, giving mainly diathermy, galvanic, sinusoidal and x-ray treatments. One of the features of European practice that should be considered more by the American physician is the use of galvanism, a modality which does not as yet seem to have reached its proper place in this country.

To Be Continued.

American Osteopathic Society of Ophthalmology and Otolaryngology

JEROME M. WATTERS, Editor
23 James St., Newark, N. J.

Our society meets in Seattle in 1931, the week preceding the A. O. A. convention. The convention is months away, but we are already planning our program. Are you doing some particular thing that the profession would like to see and hear? If you are, we want you on the program. May I ask that you let me know the topic you would like to present, with a few notes as to the particular field to be covered?

We may not, of course, be able to give you exactly the subject you request, due to the fact that there are bound to be duplications. However, if you will send in the information requested above, we shall do everything in our power to build up a program which will meet the demands of the maximum number of doctors attending the convention.

In addition, do you know anyone in your vicinity who is "hiding his light under a bushel?" If so, please send me his name.

C. PAUL SNYDER,
Chairman, Program Committee.

Colleges

CHICAGO COLLEGE OF OSTEOPATHY

The college opened for registration September 26 and classes met for the first time Monday, September 29. The enrollment has been entirely satisfactory in both numbers and quality. Sixty-five per cent of the freshmen have had some college or university work.

The first general assembly of the year was held October 1 in the college auditorium. The students were welcomed by President H. L. Collins, and Mr. Harold Palmer, president of the student council.

The student council entertained the newcomers with a reception and dance in the auditorium October 3. There was a big attendance of students and faculty. Good music and hospitality made the evening most pleasant for both newcomers and upperclassmen.

On September 26 the departmental chairmen of the different divisions of the faculty met for dinner and conference. Plans for the year's work were discussed and adopted. The faculty decided that each student's problem would be treated as an individual matter and would be given special personal attention. It was also decided, as a further means of coordinating osteopathic teaching throughout the curriculum, that a weekly faculty meeting be held. For this purpose they decided to meet each Tuesday morning from 8:00 to 8:45. Lectures are to be given by the departmental chairmen of the departments of anatomy, physiology, principles of osteopathy, technic, and comparative therapeutics. This series of discussions is to extend throughout the school year.

In accordance with the new plans, the first faculty meeting was held October 7. There was good attendance and a thoroughly worthwhile lecture was presented by the department of anatomy, the first of a series of five lectures from that department.

DES MOINES STILL COLLEGE

With Serious Seniors, Jumping Juniors, Stern Sophs and Fickle Frosh all in place, the college has taken on the appearance of a plodding plowman and all departments are hard at work. The rush days are about over. Even the secretary has quit rushing to meet the mailman.

The freshmen have been entertained; smokers have been held and we are all delighted with the new class. A fine sincere group with a higher percentage of girls than usual. Dances have also been in vogue and with the fine weather continuing we hear of picnics and other nocturnal entertainment.

The main social event of the fall season will be held October 18. It is of course the reception given by the college to the incoming class. A classy jazz band has been engaged and we understand that favors and other novelty features will be a part of the program.

Assemblies continue to hold the attention of the student body once a week and with the augmentation of the band by the new members we still maintain our lead and place among the musical organizations of the city. Recent speakers before the student body have been Drs. L. L. Wade of Winterset and M. E. Bachman of Des Moines. Dr. Spring at one meeting introduced the manager of the Bell Telephone Company who explained in his talk the many advantages of the new dial system. It is possible now to get the right number occasionally.

Activities on the first floor are attracting considerable attention at present. The addition of new laboratory equipment, refurbishing of discarded furniture, and initiation of sophs to the delights of the dissecting room are only a few of the items.

On the second floor the baby clinic continues to make itself heard on Tuesdays and Thursdays. The third and up hums with lectures and labs, and on Thursday the toot and boom of horns and drums may be heard as Virg shakes a stick threateningly at the assemblage.

KIRKSVILLE

K. C. O. S. STUDENT GETS $100,000 AND A BRIDE

Bryce Steeves, of Moncton, N. B., Canada, an upper freshman in the Kirksville College of Osteopathy and Surgery, was doubly blessed recently when he received a bequest of $100,000 and took unto himself a bride, Miss Helen Hermanson, of Billings, Mont., a senior student. The inheritance came through a grandfather and represents an interest in a chain of theaters. Mr. Steeves has temporarily dropped out of school to attend to his business affairs but expects to return and complete his course. Mrs. Steeves will finish her course next June. The young man transferred to Kirksville from Boston school and is a Phi Sigma Gamma. Mrs. Steeves is affiliated with Delta Omega.

TEN FRESHMEN ARE "SECOND GENERATION"

Among the freshmen enrolled this fall are ten representatives of the so-called "second generation" of osteopathic physicians. This includes those students who are the children of osteopaths. The group this year includes: Rollin E. Becker, Kirksville; Harold F. Beckwith, Massillon, Ohio; Arthur P. Bumstead, Delaware Springs, Ohio; William Bailey, Houston, Texas; William L. Edwards, Concordia, Kans.; William T. Hartford, Gibson City, Ill.; Donald Jaquith, Vancouver, B. C.; Clifford H. Robertson; Owensboro, Ky.; V. J. Walrod, Wabash, Ill.; Allan Dale Wright, Moberly, Mo.

SCHOLARSHIP FUND DANCE

The annual Sigma Sigma Phi scholarship fund dance was held in the gymnasium October 10. There was music by three bands, and a large crowd. The total of the scholarship fund was boosted by a substantial figure.

SOPHS WIN OVER FROSH

The second annual Frosh-Soph field day was held Friday under direction of Sigma Sigma Phi, with much success. There were hundreds present at the old high school athletic field, including many townspeople.

Although the sophs were the victors they found plenty of opposition and fight in the frosh. The first event of the day was a sack race. There were five sacks filled with sawdust placed in the middle of sort of a gridiron with the frosh at one end and the sophs at the other. At the shot of a pistol they both rushed together in the middle of the field like two mad herds of cattle endeavoring to get the sacks and each side to bring them over their own goal line. When the two classes met in the center of the field there was a dull thud like two freight trains had met, then the battle began. The frosh seemed more organized in it than the sophs and in the first minute of the battle the greenhorns had a sack across their line before the sophs realized it. Then the frosh centered their activities on the other two sacks and also in dragging the sophs over their line as they were eliminated then. The fracas lasted for about twenty minutes with the frosh victors. Both sides seemed tired out with the struggle but were able to go on.

The next event was the flag rush, in which the frosh endeavored to secure the soph flag from the top of a greased poll with sophs around the bottom of it. For eight minutes there was a rip roaring, free for all fight. Clothes were ripped, eyes blackened, heads kicked, arms twisted and what not. At the end of eight minutes the flag still remained at the top of the pole so the sophs were declared winners. The frosh certainly showed some fight and more than one of them at various times were over half way up the pole only to be pulled down by their opponents. Everyone enjoyed the battle possibly with the exception of those in it.

At the end of this event the score was one up so a rope pull was run off to decide the winner of the day.

A rope was stretched across the litttle pool of water on the field and with twenty-five men on a side the two classes went to work for the supremacy of the day. The sophs with their last year's experience, with a good coach and amid the cheers of their classmen pulled like old veterans and soon had the frosh on the run and pulled them through the pool. It was the ruling of the contest that whichever side lost had to go through the pool and mud. The frosh took it like real sports and came through the dirty water, muck and mud with a smile.

This gave the sophs their supremacy and now the freshmen will continue to wear their green caps for awhile.

The day was a huge success and one thing that impressed the bystanders was the feeling of sportsmanship among the two classes throughout the contests. The battles were bloody and furious but they were all friends

afterwards. There were a few casualties reported but nothing serious. There were plenty of doctors on the field to care for the injured so no one went unattended.

To the Sigma Sigma Phi committee in charge of things goes a great deal of credit for the success of the day. Their members with Varsity "O" men did a good job in policing and refereeing the contests.—*The Stilletto.*

Book Notices

DISEASES AND DEFORMITIES OF THE SPINE AND THORAX. By Arthur Steindler, M.D., F.A.C.S., Professor and Head of the Department of Orthopedic Surgery of Iowa State University Medical School, Iowa City. Cloth. Pp. 573, with 76 plates. Price $12.50. The C. V. Mosby Company, 3523 Pine Bldg., St. Louis, Mo., 1929.

This book, as indicated in the preface is an endeavor to develop the topic coherently and logically on the basis of theoretic consideration and experimental evidence. It is a large book of nearly 600 pages, including a great many x-ray cuts, with interpretations and explanation of same, and giving various degrees of curvature of spine and thorax.

To the osteopathic physician there are few books outside of our research books which would be more practical in the physician's library. Treatments are carefully outlined, salient points of technic are given, details of technic worked out, and surgical routine given. The subjects are, Deformities, Congenital; Static and Constitutional Deformities; Fractures; Dislocations; Low Back Pains; Osteomyelitis; Syphillis of the Spine; Chronic Arthritis of the Spine; Tumors of the Spine; and a synopsis of the anatomy of the spine. More hardly need be said. A book you will appreciate.

TECHNIC OF CONTRACEPTION. The Principles and Practice of Anti-Conceptional Methods. By James F. Cooper, M.D. Medical Director of the American Birth Control League and, until January, 1929, of the Birth Control Clinical Research Bureau, New York City; Formerly Professor of Clinical Surgery, Foochow Union Medical College, Foochow, China; and Clinical Instructor in Obstetrics, Boston University Medical School. Cloth. Pp. 271. Price $7.50 prepaid. Day-Nichols, Inc., Publishers, 15 E. 40th Street, New York City, 1928.

A book greatly needed. The subject is treated in an analytical, scientific fashion, which will enable the average practitioner to evaluate the different methods for the control of conception. All the current, authorized knowledge of this problem is contained therein and the doctor who reads this book is much better prepared to instruct patients who come to him for advice on such matters. Here is information the profession has long been seeking.

SYMPTOMS OF VISCERAL DISEASE. A Study of the Vegetative Nervous System in its Relationship to Clinical Medicine. By Francis Marion Pottenger, A. M., M.D., LL.D., F.A.C.P. Medical Director, Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, California; Author of "Clinical Tuberculosis," "Tuberculin in Diagnosis and Treatment," "Muscle Spasm and Degeneration," etc. Fourth Edition. Cloth, Pp. 426, with 87 text illustrations and ten color plates. Price $7.50. The C. V. Mosby Company, St. Louis, Mo., 1930.

The name itself commands attention of every osteopathic physician. This is the fourth edition of a very valuable book, and should find its way into every osteopathic library, not to ornament his generous shelves, but to use daily.

It has been the aim of the author not only to discuss the newer physiological principles involved in the study of visceral neurology, but also to athempt a correlation in such a manner as to make them readily applicable to clinical problems.

State and Divisional News

Announcements

American Osteopathic Association, Seattle, August 3-8, 1931.

American Osteopathic Society of Ophthalmology and Otolaryngology, Seattle, July 27-August 1, 1931.

American Osteopathic Society of Proctology, Seattle, July 30-August 1, 1931.

American College of Osteopathic Surgeons, Los Angeles, July, 1931.

Florida State Convention, Daytona Beach, in the spring, 1931.

Kentucky State Convention, Louisville, early in May, 1931.

Massachusetts State Convention, Boston, January 3, 1931.

New York State Convention, Buffalo, October, 1931.

Tennessee State Convention, Nashville, November 21, 22.

Texas State Convention, Dallas, April, 1931.

West Virginia State Convention, Martinsburg, June, 1931.

AMERICAN COLLEGE OF OSTEOPATHIC SURGEONS

Full reports of the meeting of the American College of Osteopathic Surgeons at Philadelphia, October 2, 3, and 4, have not reached this office. Dr. W. Curtis Brigham of Los Angeles, was reelected president. The next meeting will be held in Los Angeles prior to the national convention at Seattle.

CALIFORNIA

Hollywood Osteopathic Physicians and Surgeons' Club

The speakers at the regular weekly meetings of the Hollywood Osteopathic Physicians and Surgeons' club during September were as follows:

September 2, Dr. George Parrish, Los Angeles City health officer discussed the activities of his department in safeguarding the health of the city.

September 9, Dr. W. Curtis Brigham, Los Angeles, spoke on Cancer.

September 16, there was a report on research work for the prevention and cure of cancer.

September 23, Dr. Floyd Trenery, Los Angeles, spoke on cancer and continued the discourse on the subject which had been presented at the two previous meetings.

September 30, A social program featured this meeting of the club, with musical selections and a sleight-of-hand performance.

Long Beach Osteopathic Association

Dr. W. W. Pritchard, Los Angeles, was the speaker at the September 9 dinner meeting. His topic, which was illustrated with motion pictures, was The Alimentary Tract.

Orange County Osteopathic Society

The first autumn meeting of the Orange County Osteopathic society was held in Santa Ana, September 11, with Drs. Dain L. Tasker, Los Angeles, and Peryl B. Magill as speakers. Dr. Tasker spoke on Developmental Abnormality, and Dr. Magill who recently returned from Paris where she has practiced for three years, told of her experiences abroad.

Osteopathic Physiotherapy Association of Southern California

The October meeting of the Osteopathic Physiotherapy Association of Southern California was held in Los Angeles on the 15th. Dr. James E. Eckles, Glendale, spoke on Pelvic Diseases.

Pasadena Osteopathic Society

Dr. Charles Spencer, Los Angeles, was the principal speaker at the September 18 meeting of the Pasadena Osteopathic society. His subject was The Physiology of the Joint. Dr. Stewart J. Fitch, Pasadena, showed moving pictures of the members which he recently took at their breakfast club.

The October meeting of the society was held on the 2nd, with Dr. Charles Spencer speaking on Joints and Allied Structures.

Pasadena Osteopathic Physicians and Surgeons' Luncheon Club

Speakers at the regular weekly meetings of the Pasadena Osteopathic Physicians and Surgeons' Luncheon club during September, were as follows:

September 2, Dr. Lorenzo Whiting, Los Angeles, who spoke on Laboratory Diagnosis.

September 9, Drs. Grant E. Phillips and W. C. Bondies, both of Pasadena, reported on a recent meeting of the Los Angeles County Osteopathic society and the Unit No. 2 of the Los Angeles County General hospital.

September 16, Dr. James M. Watson, Los Angeles, discussed Tuberculosis in Children.

September 23, Dr. Edward S. Merrill, Los Angeles, spoke on The Technic of the Psychopathic Hospital.

September 30, Mr. Charles Arthur, city bacteriologist, spoke on the city water and milk supplies.

San Diego Osteopathic Society

At the October 3 meeting of the San Diego Osteopathic society, Dr. James M. Watson, Los Angeles, spoke on Tuberculosis in Childhood.

San Jose District Osteopathic Society

The San Jose District Osteopathic society held a meeting and outing on Monterey peninsula, Saturday and Sunday, October 4 and 5. The professional meeting on Saturday night was followed by a social time. A beach breakfast was the feature for Sunday morning.

COLORADO

State Association

The regular monthly meeting of the Colorado Osteopathic association was held in Greeley, September 20. The professional program included operative and diagnostic clinics. Dr. H. M. Ireland, Denver, discussed the pathology of the upper air passages leading to submucous resection and Dr. P. D. Schoonmaker, Colorado Springs, lead the clinic on operation. Dr. C. C. Reid, Denver, both examined a case of and discussed Tinnitus Aurium. Drs. H. S. Dean and F. I. Furry both of Denver, led clinics for varicose veins.

Denver—Cortex Club

At the September 15 meeting, Dr. R. R. Daniels talked on diagnosis.

Dr. F. I. Kendall is secretary-treasurer of the club in place of Dr. O. D. Fry who has recently removed to Colorado Springs. Dr. C. R. Starks is program chairman.

GEORGIA

Atlanta Society of Osteopathic Physicians

At a meeting of the Atlanta Society of Osteopathic Physicians on October 3, the following officers were elected: President, Dr. W. B. Elliott; vice president, Dr. Elizabeth L. Broach; secretary-treasurer, Dr. D. L. Anderson.

ILLINOIS

Chicago Osteopathic Association

Dr. J. H. Styles, Kansas City, Mo., was the speaker at the October 2 meeting of the Chicago Osteopathic association.

South Side (Chicago) Osteopathic Physicians' Society

The South Side Osteopathic Physicians' society has had for its speakers at recent meetings the following osteopathic physicians: Dr. Anna Mary Mills, Chicago, on Psychoanalysis; W. H. Gillmore, Detroit, on Varicose Veins; Dr. R. R. Peckham, Chicago, on Neuritis; Dr. R. N. MacBain, Chicago, on College Topics; Dr. Morris Berk, Chicago, on Convention News; Dr. Fink, on Ambulant Proctology, and Dr. Pauline R. Mantle, Springfield, on He Lives Most Who Does Most for Others.

McLean County Osteopathic Association

At its organization meeting on September 23, the McLean County Osteopathic association elected the following officers: President, Dr. H. H. Maddox; vice president, Dr. F. J. Willet, Bloomington; secretary-treasurer, Dr. F. M. Tracy, Bloomington.

Rockford Osteopathic Society

On September 11, the Rockford Osteopathic society elected officers as follows: President, Dr. Maud Swits Stowell; vice president, Dr. R. B. Hammond; secretary-treasurer, Dr. Hugh Wise.

Second District (Illinois) Osteopathic Association

Dr. Frederick Graham, Morris, spoke on Surgery before a meeting of the Second District Illinois Osteopathic association, October 4. Officers were elected as follows: President, Dr. B. J. Snyder, Fulton; vice president, Dr. A. H. Miller, Lanark; secretary-treasurer, Dr. J. K. Swain, Sterling.

INDIANA

State Convention

The annual meeting of the Indiana State association was held in Fort Wayne, October 22 and 23, too late to be reported in this issue.

St. Joseph Valley Osteopathic Society

In addition to the osteopathic physicians who spoke at the September 17 meeting of the St. Joseph Valley Osteopathic society, Ernie Nevers, football ace with the Chicago Cardinals, professional team, related his experiences with osteopathy.

IOWA

Boone-Story Osteopathic Association

The Boone-Story Osteopathic association held its fall picnic at Ledges State park, September 15, with the following program:

Dr. C. M. Proctor, Ames, reported on the national convention at Philadelphia and talked on Blood Injections; Dr. H. K. Johnson, Jefferson, spoke on the Care of Athletes, and Dr. J. E. Gray, Newton, gave an address on Foot Work.

Sioux City Osteopathic Association

A business meeting of the Sioux City Osteopathic association was held on August 7. Dr. C. N. Stryker reported the annual state convention at Des Moines and Dr. W. C. Gordon reported the national convention at Philadelphia.

Officers were elected as follows: President, Dr. George F. Ingledue; vice president, Dr. W. C. Gordon; secretary, Dr. George A. Scott, and treasurer, Dr. Donald C. Giehm.

Sixth District (Iowa) Osteopathic Physicians and Surgeons Society

The annual meeting of the Sixth District society was held in Osceola, October 9, with the following program:

Dr. C. E. Still, Kirksville, Early Osteopathy; Dr. H. J. Marshall, Des Moines, Ear, Nose and Throat Conditions Met with in General Practice; Dr. Ray G. Hulburt, Chicago, Business Side of Osteopathic Practice; Round Table Discussion of Osteopathic Practice Problems; Dr. J. K. Johnson, state president, Jefferson, Osteopathic Conditions in Iowa; Dr. F. P. Walker, St. Joseph, Mo., Indications for Ceasarean Section; Dr. Hulburt, Chicago, Ethical Publicity; and Dr. C. E. Still, Kirksville, Early Osteopathic Technic.

Officers were elected as follows: President, Dr. Mary Golden, Des Moines; vice president, Dr. Grace Abolt, Des Moines; secretary-treasurer, Dr. L. L. Wade, Winterset; district trustee, Dr. W. A. Craig, Story City; state trustee, Dr. C. M. Proctor, Ames; legislation, Dr. P. L. Park, Des Moines.

Southeastern Iowa District Osteopathic Association

The regular monthly meeting of the Southeastern District Osteopathic association was held in Mt. Pleasant, October 9.

KANSAS

State Convention

The Kansas State Osteopathic association held its annual convention in Topeka, October 2 and 3. Among speakers from outside the state were Drs. A. D. Becker, Kirksville, Fred Still, Macon, Mo., and H. V. Halladay, Des Moines. From within the state, the following osteopathic physicians were on the program: Drs. C. A. Tedrick, Wichita; W. S. Corbin, Wichita; W. S. Childs, Salina; Lucy M. Hull, Wellington; E. C. Brann, Wichita, and J. E. Freeland, Coffeyville.

Officers were elected as follows: President, Dr. W. S. Childs, Salina; vice president, Dr. E. H. Reed, Topeka; secretary-treasurer, Dr. E. C. Brann, Wichita.

Arkansas Valley Osteopathic Association

The regular monthly meeting of the Arkansas Valley association was held in Greensburg, August 28.

The September meeting of the association was held in Larned on the 25th.

Cowley County Osteopathic Association

"Infantile Paralysis," was the topic of the evening at the September 25 meeting of the Cowley County Osteopathic association, which was held in Winfield. Drs. F. L. Barr and R. D. Stephenson, Arkansas City, discussed the subject.

Eastern (Kansas) Osteopathic Association

A banquet featured the first fall meeting of the Eastern Kansas Osteopathic association on September 9, at Ottawa. The professional program consisted of addresses by Drs. D. A. Bragg and E. Claude Smith of Topeka.

Four-Counties Osteopathic Association

The annual Four-Counties Osteopathic association picnic was held in Wellington, September 18.

Sedgwick County Osteopathic Association

Dr. Gertrude Farquharson, Wichita, was the principal speaker at the semi-monthly meeting of the Sedgwick County Osteopathic association which was held September 24, in Wichita.

Southern Kansas Osteopathic Society

The October meeting of the Southern Kansas Osteopathic society was held in Caldwall on the 9th. Among the speakers were Dr. R. R. Wallace, Caldwell, who discussed and demonstrated his technic of Electrocoagulation of Tonsils, and Dr. Fred E. Dunlap, Wellington, who spoke on Treatment of Nasal Pathology.

Verdigris Valley Osteopathic Association

At a meeting of the Verdigris Valley Osteopathic association, September 5, in Independence, Dr. Margaret C. Wolf, Chanute, spoke on Fever, and Dr. W. L. Stevick, Notawa, reported on the national convention.

KENTUCKY

Jefferson County Osteopathic Society

At a meeting of the Jefferson County Osteopathic society in Louisville, September 9, officers were elected as follows: President, Dr. Nora B. Pherigo Baird, Louisville; vice president, Dr. A. B. Patterson, Elizabethtown; secretary-treasurer, Dr. Ella Shifflett, Louisville.

MAINE

State Convention

The annual meeting of the Maine Osteopathic association was held in Bangor, October 4, with the following program:

Dr. J. Oliver Sartwell, Boston, discussed the Importance of Preventive rather than Curative Medicine; the Treatment of Infantile Paralysis, and the Use of the Metal Lung. Other speakers were Drs. Roy W. Teed of Damariscotta and Dr. Albert E. Chittenden of Auburn.

MASSACHUSETTS

New England Osteopathic Association

The fall meeting of the New England Osteopathic association was held at Templeton, Massachusetts, September 26 and 27. Drs. George C. Taplin and Myron B. Barstow, Boston, gave technical discussions of osteopathy; Dr. Orel F. Martin, Boston, described the progress of osteopathy during the last ten years; Dr. John A. MacDonald, Boston, spoke on Osteopathic Technic, and Dr. Gervase C. Flick, also of Boston, demonstrated the use of x-ray in diagnosis.

MINNESOTA

Southern District (Minnesota) Osteopathic Association

The annual convention of the Southern District Osteopathic association was held in Austin, October 3 and 4. The professional program was as follows:

Dr. Walter K. Foley, Minneapolis, Ambulant Proctology; Dr. Foley, Varicose Veins; Dr. J. W. Hawkinson, Luverne, Electrocoagulation of Tonsils; Dr. H. R. Berston, St. Paul, Removal of Skin Growths; Dr. E. C. Mead, Red Wing, Sprained Ankle; Dr. Philomena W. Wells, Osteopathic Gynecology; Dr. E. S. Powell, St. Paul, Osteopathic Concept—(This paper was read by Dr. Walter G. Hagmann, St. Paul); Dr. Foley, Review of Surgical Results; Dr. Leslie S. Keyes, Minneapolis, Specific Technic; Dr. Martha G. Nortner, Minneapolis, Influenza; Dr. M. L. Lobb, Winnebago, Outline of Periodic Physical Examination.

MISSOURI

State Convention

The annual convention of the Missouri Osteopathic association was held in St. Joseph, October 13, 14 and 15, too late to be reported in this Journal.

Buchanan County Osteopathic Association

At a meeting of the Buchanan County Osteopathic association in St. Joseph, October 1, Dr. E. D. Holme, St. Joseph, gave an address on Infantile Paralysis.

Central Missouri Osteopathic Association

The September meeting of the Central Missouri Osteopathic association was held in Boonville, with a clinic and a banquet preceding the business session. Drs. E. C. Petermeyer and A. C. Hardy, Kirksville, conducted the clinics.

North Central Missouri Osteopathic Association

The September meeting of the North Central Missouri Osteopathic association was held in Brunswick on the 25th. A lawn supper was served by the president, Dr. J. L. Fetzer, after which the group adjourned to the city hall for a business meeting. The speakers of the evening were Drs. George J. Conley, Kansas City, A. G. Hildreth, Macon, and J. L. Allen, Higginsville.

Northeast Missouri Osteopathic Association

The regular monthly meeting was held in La Grange, September 17. Dr. Arthur D. Becker, Kirksville, addressed the members with a talk on Osteopathic Technic.

Ozark and Southwest District (Missouri) Osteopathic Associations

A joint meeting of the Ozark and the Southwest District Osteopathic associations was held in Monett, September 17. Dr. O. L. Dickey, Joplin, reported on the national convention at Philadelphia and showed films of historic places in Philadelphia, and others illustrating the use of anesthesia in obstetrics. A representative of the Petrolagar Laboratories showed films on various types of abdominal operation.

Southeast Missouri Osteopathic Association

The annual convention of the Southeast Missouri Osteopathic association was held in Sikeston, October 2 and 3. The program, as published in advance, was as follows:

October 2

Dr. James D. Edwards, St. Louis, Eye, Ear, Nose and Throat—lectures and clinics; Dr. C. J. Gaddis, Chicago, Impressions of the A. O. A. Convention in Philadelphia; Dr. Q. L. Drennan, St. Louis, The Foot, Its Abnormalities from an Orthopedic Point of View—Clinics; Dan's Decision shown to student body at Sikeston High School; Dr. Gaddis, Factors in the Game; E. C. Matthews, Sikeston, The Past and Future of Sikeston.

October 3

Dr. Edwards, Clinics; Dr. Gaddis, Bedside Technic of General Practice.

NEBRASKA

State Convention

At the annual meeting of the Nebraska State association, reported in the October JOURNAL, the following officers were elected: President, Dr. R. H. Cowger, Hastings; vice president, Dr. W. H. Baker, Aurora; secretary, Dr. I. D. Gartrell, Clay Center; treasurer, Dr. Angela McCreary, Omaha; editor of Nebraska Osteopathic Bulletin, Dr. O. D. Ellis, Norfolk.

NEW JERSEY

State Society

The regular monthly meeting of the New Jersey Osteopathic society was held in Newark, October 11. Charles B. Kelley, M. D., spoke on Osteopathic Legislation.

Southern New Jersey Osteopathic Society

At a meeting held in Atlantic City, September 20, Dr. Henry Bellew, Philadelphia, demonstrated the Corrective Procedure in Various Spinal and Hip Ailments. His demonstrations were supplemented by x-ray films.

NEW YORK

State Convention

The annual meeting of the New York State Osteopathic society was held in Syracuse, October 17 and 18, too late to be reported in this JOURNAL.

Osteopathic Society of the City of New York

At the September 27, meeting of the Osteopathic Society of the City of New York, the following program was presented:

Dr. C. Paul Snyder, Philadelphia, Common Colds and Their Treatment; Dr. A. B. Clark, New York, The Role of Colonic Irrigations in the Treatment of Common Colds, and Dr. George W. Riley, New York, Osteopathic Fundamentals in the Treatment of Common Colds.

Rochester District Osteopathic Society

The first fall meeting of the Rochester District Osteopathic society was held October 3.

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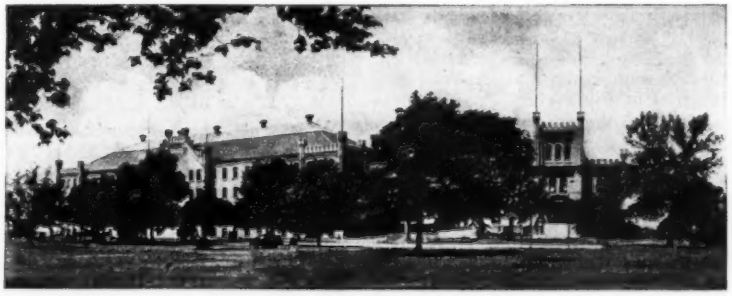

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Dr. Irene K. Lapp gave a report of the Osteopathic Women's National association; Dr. C. J. W. Beal reported on the national convention at Philadelphia; Dr. M. Lawrence Elwell spoke on Osteopathic Legislation in the Coming Year; there was a discussion by members on Diathermy in Joint Diseases.

Officers were re-elected as follows: President, Dr. Aurelia Avery; vice president, Dr. F. L. Cady, and secretary-treasurer, Dr. Edward L. Spitz-nagel.

OHIO

The October speaker on the Ohio chautauqua circuit was Dr. W. Curtis Brigham, Los Angeles, chief of staff of Monte Sano Hospital and Sanitarium. Dr. Brigham discussed the relation of the osteopathic profession to hospitals, particularly as exemplified in the Los Angeles County General Hospital. In the technical part of his address, he discussed Viscerosomatic Reflexes and the Treatment of Disease by the Injection of Whole Blood.

Central District Osteopathic Society

Dr. Louis H. Eske, Columbus, has been appointed secretary-treasurer in place of Dr. A. F. W. St. John who has moved out of the district.

OKLAHOMA

Kay County Osteopathic Association

At the regular monthly meeting of the Kay County Osteopathic association in Blackwell, August 14, Dr. C. R. Hocker, Ponca City, gave an address on Diseases of the Mouth.

South Central Oklahoma Osteopathic Association

The October meeting of the South Central Oklahoma Osteopathic association was held in Ada on the 2nd.

PENNSYLVANIA

Lehigh Valley Osteopathic Association

The September meeting of the Lehigh Valley Osteopathic association was held in Easton on the 25th. Following a dinner, a round table discussion of Infantile Paralysis was held.

Western Pennsylvania Osteopathic Association

The first fall meeting of the Western Pennsylvania Osteopathic association was held in Johnstown, September 27, with the following program:

Dr. Fred C. Farrand, Tyrone, Gastro-intestinal Diseases, Osteopathic Technic; Drs. Charles M. Brown, Altoona, N. R. Quest, Johnstown, W. Rollins Oliver, Johnstown, and Roy E. Hughes, Indiana, Case Reports and Demonstrative Osteopathic Technic; Dr. Walter P. Spill, Pittsburgh, Osteopathic Pediatrics; Dr. C. L. Black, Johnstown, The Tonsil from an Osteopathic and a Surgical Standpoint.

RHODE ISLAND

State Society

The September meeting of the Rhode Island Osteopathic society was held in Providence, on the 11th. In addition to the regular business meeting, a report was given of the national convention in Philadelphia.

At the October 9 meeting of the association, Dr. William B. Shepard, Providence, spoke on Factors in Etiology. Plans were discussed for organizing an Osteopathic Women's Auxiliary.

TEXAS

Dallas Osteopathic Association

At a meeting of the Dallas Osteopathic association on October 11, Dr. Frank B. Moon spoke on and gave a practical demonstration of Athletic Injuries.

Lower Rio Grande Valley Osteopathic Association

The September meeting of the Lower Rio Grande Valley Osteopathic association was held in Matamoros, Mexico, on the 29th. Drs. W. E. and Ila Davis, McAllen, Texas, were the speakers, the former discussing Gynecology, and the latter, the Acute Appendix.

Southeast Texas Osteopathic Association

The regular quarterly session of the Southeast Texas Osteopathic association was held in Houston, September 27. Speakers on the program were Drs. Ambrose Miller, C. B. Miesch, Houston, and B. L. Livengood, Bay City.

VERMONT

State Convention

The annual meeting of the Vermont Osteopathic association was held in Burlington, October 10 and 11. The program as published in advance, was as follows:

October 10

Dr. A. D. Becker, Kirksville, Diagnosis of Cardiac Affections; Dr. C. G. Wheeler, Brattleboro, Delegate's Report; Dr. Harry M. Loudon, Burlington, Resistance; Dr. A. D. Becker, Diagnosis of Chest Conditions.

October 11

Moving pictures, Courtesy Petrolagar Laboratories; Dr. A. D. Becker, Osteopathic Basic Principles and their Relations to Treatment; Dr. Orel F. Martin, Boston, The Acute Abdomen; Dr. A. D. Becker, Some Suggestions on Osteopathic Technic, Including Locked Lesions.

WASHINGTON

Pierce County Osteopathic Society

Dr. J. Henry Hook, Tacoma, has been elected secretary-treasurer of the Pierce County Osteopathic society, to take the place of Dr. John W. Deane.

WEST VIRGINIA

Monongahela Valley Osteopathic Association

The first fall meeting of the Monongahela Valley Osteopathic association was held in Elkins, September 16.

Ohio Valley Osteopathic Society

The October dinner meeting of the Ohio Valley Osteopathic society was held in Wheeling, October 2, with Dr. J. Donald Sheets of the Marietta (Ohio) Osteopathic Clinic, as the principal speaker. Dr. Sheets discussed the Treatment of Varicose Veins and Foot Troubles.

WISCONSIN

Milwaukee District Osteopathic Association

At the September 4 meeting of the Milwaukee District Osteopathic association, Dr. O. W. Williams was the speaker. Drs. Victor W. Purdy, John E. Rogers, and M. V. Baxter reported on the national convention at Philadelphia.

CANADA

Ontario Osteopathic Association

The annual meeting of the Ontario Osteopathic association was held in Hamilton, October 8. The program, as published in advance, was as follows:

Morning. Dr. J. P. Schwartz, Des Moines, Iowa, Clinics—Needs and Methods; H. S. Wismer, M. D., London, Ont., A Radiologist's Discoveries in the Sacro-iliac and Pelvis; Dr. A. W. Blakely, Toronto, Acidosis.

Afternoon. Moving pictures—The Anatomy of the Abdominal Viscera, Movements of the Alimentary Tract; Dr. J. P. Schwartz, Diagnosis, Surgical; general discussion, Osteopathic Experiences That Have Helped.

Evening. Dr. E. S. Detwiler, London, Ont., Public Address; Film—Dan's Decision.

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Baldridge, Paul, from Kendaia, N. Y., to 206 Guard Bldg., Geneva, N. Y.

Ballew, W. H., from Plainview, Texas, to Box 801, Memphis, Texas.

Bashor, Horace A., from 600 Edwards Wildey Bldg., to 5514 Wilshire Blvd., Los Angeles.

Bates, Z. Elton, from Kansas City, Mo., to 302-04 Capital Club Bldg., Raleigh, N. C.

Brewer, Darl R., from 2665 E. 74th St., to 1954 E. 71st St., Chicago.

Brown, C. Eugene, from Edgar, Nebr., to Box 192, Nebraska City, Nebr.

Bruder, Susan B., from Wells, Minn., to Grundy Center, Ia.

Bulger, Arthur J., from Okmulgee, Okla., to 425½ Avenue D., Lawton, Okla.

Carberry, Edward P., from 14 St. James Pl., to 728 Linwood, Buffalo, N. Y.

Carter, M. D., from Middletown, O., to 523 Rentschler Bldg., Hamilton, O.

Chase, Alice, from Rockaway Point, N. Y., to 174-B 132nd St., Belle Harbor, N. Y.

Claypoole, H. S., from Meade, Kans., to Northrup Theatre Bldg., Syracuse, Kans.

Cooper, Emma S., from 388 Palm Ave., to 4193 Walnut St., Riverside, Calif.

Crapser, Edward A., from Columbia Cross Roads, Pa., to 38 E. Tioga St., Tunkhannock, Pa.

Crossland, Emma C., from Claremont, Calif., to Twin Falls, Idaho.

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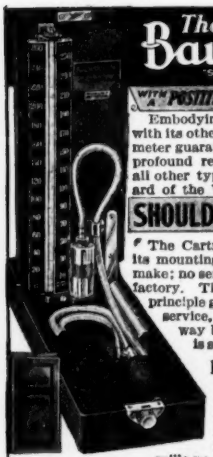

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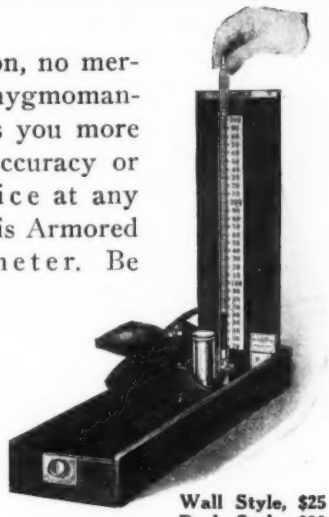

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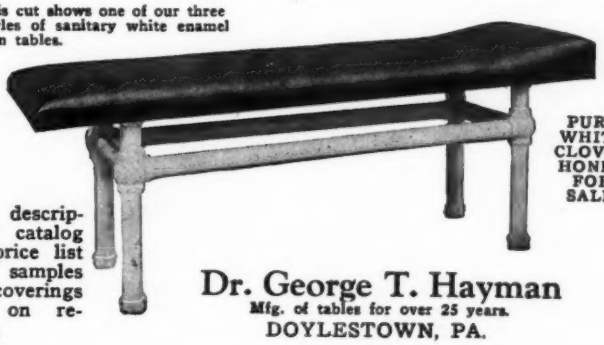

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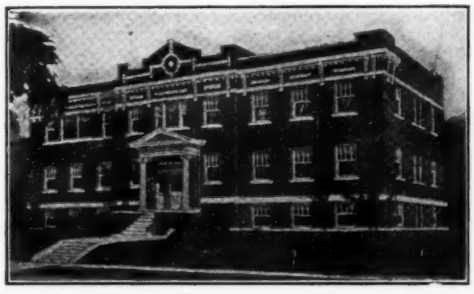

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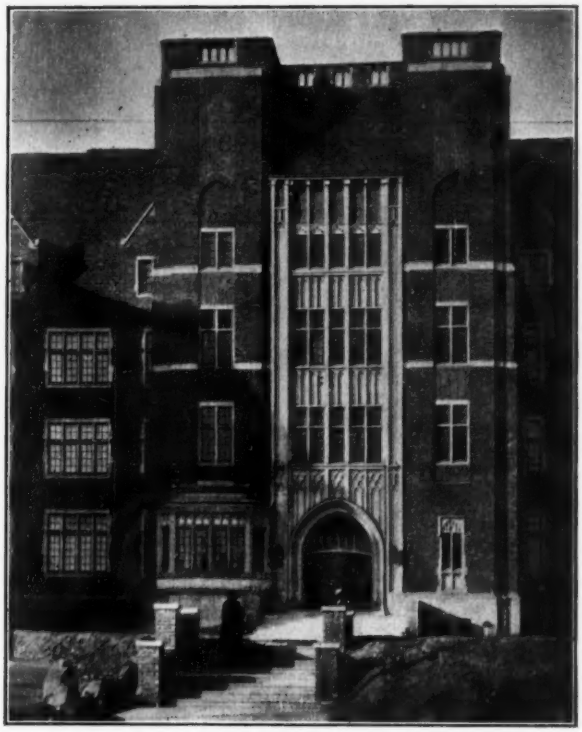

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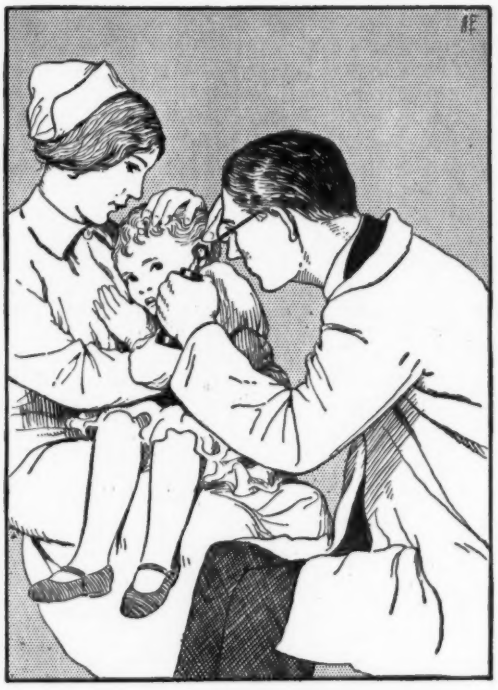

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